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AUTHOR	Vandegrift, Judith A.; And Others
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ABSTRACT

A study examined statewide implementation of the Arizona Department of Education's vocational technological education (ADE/VTE) model and the feasibility of using Arizona's performance standards in evaluating processes/outcomes at model sites. Data were collected from a pilot study of 12 sites and survey of 128 Arizona local education authorities (LEAs). Although most schools surveyed believed they were implementing model programs, site visits established that many schools were not in fact replicating the ADE/VTE model. Conceptual/definitional difficulties with the ADE/VTE model and performance standards and problems in local implementation of the model and standards were identified. The following actions were recommended: simplify the model, increase technical assistance and support to LEAs toward implementing the VTE model, redesign the performance standards system to enable collection and reporting of valid and reliable student performance data, enhance technical assistance efforts to help sites collect/report more valid/reliable data and use data for program improvement, and work toward designing an evaluation system incorporating recent federal/state policy reforms. (Fourteen tables/figures are included. Appendixes constituting approximately two-thirds of this report contain the following: list of ADE/VTE model-funded sites, site visit reports and checklists, site visit comparisons on program characteristics, and results of the LEA performance standards procedures survey.) (MN)

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ED 377 332

Morrison Institute for Public Policy
School of Public Affairs
Arizona State University

IMPROVING QUALITY AND ACCOUNTABILITY IN VOCATIONAL TECHNOLOGICAL PROGRAMS:

An Evaluation of Arizona's VTE Model and Performance Standards

Prepared by

Judith A. Vandegrift
Carol A. Norris
and
Howard J. Sullivan

With contributions by

Audrey J. Noble
and
Linda Edle

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EXECUTIVE SUMMARY

In Spring 1993, Morrison Institute for Public Policy, School of Public Affairs, Arizona State University, was awarded a contract to conduct a research project on behalf of the Arizona Department of Education, Division of Vocational Technological Education (ADE/VTE). Objectives of the project involved examining VTE Model implementation statewide, studying local procedures in conducting Performance Standards evaluations, and researching issues related to using ADE-housed Performance Standards data to evaluate "Model" sites (i.e., sites receiving ADE targeted funds for the implementation of the VTE Model).

In fulfillment of these goals, Morrison Institute researchers conducted a survey of all LEAs regarding VTE Model implementation, site visits to both Model-funded sites and matched nonfunded sites, and a survey of LEAs regarding procedures used to complete Performance Standards evaluations. State and local documents were also analyzed.

This report summarizes the research in three parts. Part One discusses the VTE Model and issues related to its implementation. As discussed in Part One, while most schools with state-approved, formula-funded programs believe they are implementing Model programs, data suggest that this may not be the case. Researchers identified conceptual and definitional problems with the Model (in terms of ADE criteria for a fully implemented Model program) as well as local implementation problems. These types of problems—Model problems and implementation problems—are interrelated and affect the replicability of the VTE Model and hence its reliability.

Part Two discusses Performance Standards and Measures and local procedures related to conducting Performance Standards evaluations. Researchers identified problems with the Performance Standards data as well as local procedural problems in implementing Performance Standards evaluations. Similar to the VTE Model analysis, problems in defining Performance Standards and local implementation problems were found to be interrelated, suggesting a need to redefine the Performance Standards database.

Part Three discusses issues pertinent to: a) the VTE Model, b) Performance Standards, and c) issues related to using Performance Standards for evaluating VTE Model sites. Regarding the latter, purposes of evaluation are discussed in terms of both outcomes and processes. Performance Standards and VTE Model characteristics are compared to these types of evaluations and critiqued.

In summary, the report makes recommendations about the VTE Model, Performance Standards, and evaluation design. Recommendations are as follows:

- **Simplify the Model.**
  - ✓ Eliminate Model program characteristics that fail to distinguish between types of programs.
  - ✓ Reconsider and adjust several of the Model program characteristics. Specifically, department personnel should develop indicators or benchmarks for each program characteristic. This would allow for determining the extent of implementation rather than the "all or nothing" judgments currently reflected by the checklist.

- ✓ Consider the amount of instructional time available for VTE courses, given general graduation requirements, and whether requiring three years of broad (Level I) to specific (Level III) VTE training is most appropriate and realistic within that framework.
- ✓ Better articulate Level I with Levels II and III.

- **Increase technical assistance and support to local educational agencies toward implementing the VTE Model, and specifically:**

  - ✓ Provide additional training to school-based VTE personnel on the six Model strands and on the ADE Model program characteristics.
  - ✓ Expand funding and/or technical assistance to develop appropriate multi-purpose environments that simulate those of business and industry.

- **Redesign the Performance Standards system to enable both the collection and reporting of valid and reliable student performance data.**

  - ✓ Continue to pursue the use of ASAP data as a means to document the academic skills of VTE program students.
  - ✓ Explore alternative means to document the attainment of students' occupational competencies, so as to produce comparable data.
  - ✓ Define terms that are essential to accurate data reporting.
  - ✓ Identify existing state and local databases that provide comparable data pertinent to Performance Standards (e.g., the state dropout reporting system).

- **Enhance technical assistance efforts to enable sites to collect and report more valid and reliable data and to use data for program improvement.**

  - ✓ Encourage/provide more training on appropriate curricular and assessment adaptations for special needs students.
  - ✓ Provide increased technical assistance to site personnel to ensure their use of new and existing definitions pertinent to the collection and accurate reporting of Performance Standards data.
  - ✓ Enhance the training of local personnel on the use of existing state and local databases that provide comparable data pertinent to Performance Standards (e.g., the state dropout reporting system).
  - ✓ Encourage local district staff to share evaluation results with VTE staff, and assist local staff to meaningfully use evaluation data for program planning and improvement.

- **Work toward designing an evaluation system(s) that incorporates recent federal and state policy reforms.**

  - ✓ Examine the alignment of the Performance Standards (outcomes) and VTE Model Program Characteristics (processes) with respect to evaluation design.
  - ✓ Implement a process evaluation in addition to the Performance Standards outcomes evaluation with respect to VTE Model Program implementation.

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INTRODUCTION

In Spring 1993, Morrison Institute for Public Policy, School of Public Affairs, Arizona State University, was awarded a contract (94-VF-SL-02-6.1) to conduct a research project on behalf of the Arizona Department of Education, Division of Vocational Technological Education (ADE/VTE). The research/evaluation study, originally titled "An Evaluation of Vocational Technological Education Model Implementation," had four primary objectives. The objectives involved examining VTE Model implementation statewide, studying local procedures in conducting Performance Standards evaluations, and statistically analyzing ADE-housed Performance Standards data with the intent to design a method for using these data to longitudinally evaluate "Model" sites (i.e., sites receiving ADE targeted funds for the implementation of the VTE Model).

As the study progressed, it became clear that objectives involving ADE-housed Performance Standards data could not be accomplished. This was due to difficulties experienced by the Department of Education in creating a database comprised of locally reported Performance Standards data. Therefore, in consultation with ADE/VTE personnel, Morrison Institute's project was amended to conduct a pilot study of 12 sites regarding VTE Model implementation in lieu of a statistical analysis of the database and design of a longitudinal evaluation. The primary purpose of the pilot study was to examine issues related to the local implementation of the VTE Model. Secondarily, the pilot study was used as a vehicle to explore issues pertinent to the evaluation of "Model sites."

In fulfillment of the 1993-94 amended contract and related project objectives, this report is comprised of three main parts.

- Part One discusses issues pertinent to the statewide implementation of the VTE Model. The results of a statewide survey and the pilot study of 12 sites are documented in this section.

- Part Two discusses the findings of a survey designed to explore local procedures used in conducting Performance Standards evaluations. Results of the survey are used to assess the reliability and validity of Performance Standards data.

- Part Three explores the idea of using Performance Standards data as an evaluation tool for "Model" sites. In this section, reliability and validity issues are recapped as they pertain to both the VTE Model and the Performance Standards. The overall problems and prospects of evaluating "Model" sites using Performance Standards data are discussed.

PART ONE

IMPLEMENTING THE VOCATIONAL TECHNOLOGICAL EDUCATION (VTE) MODEL IN ARIZONA

This section of the report describes Arizona's VTE Model and discusses two studies of its implementation in Arizona schools completed by Morrison Institute research analysts. The first implementation study was designed to identify the status of ***all*** schools toward implementing the VTE Model. The second study involved site visits to 12 schools and was intended to assess issues relevant to the local implementation of the VTE Model.

THE VTE MODEL

During the 1980s and culminating with the release of *Workforce 2000* (Johnston & Packer, 1987), America's business and education communities became increasingly aware of the need to revitalize the training of the nation's workforce. During the same era, educational reformers began to emphasize content and student performance standards as means to improve schools. In keeping with these parallel movements, Arizona educators and business representatives alike began to reexamine beliefs and practices that had long shaped education in the state.

This Arizona reexamination of educational practice spawned the development of the state's *Essential Skills* curriculum documents and its companion assessment program—the Arizona Student Assessment Program, or ASAP. In addition, a new concept for vocational programming evolved.

The VTE Model was defined and developed over a three-year period (1987-1990) by ADE/VTE staff in concert with representatives of business and industry, district/school personnel, and state university staff. Initially referred to as the "Arizona Vocational Technological Education Curriculum Model"[1], the VTE Model represents the state's vision of an articulated sequence of instruction for students in grade seven through postsecondary training.

The VTE Model has three dimensions as shown in Figure 1: scope of occupational training, sequence of training, and curricular content. Overall, this framework for vocational technological education reflects a shift *away* from an instructional model emphasizing content in a single training area (e.g., carpentry) *to* instruction that integrates multiple skills in preparing youth for work.

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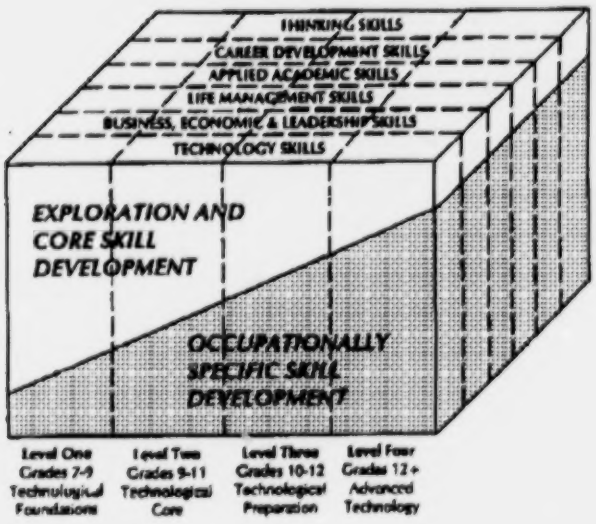
[1] See Snyder, Johnson, DeMuth & Tasker (1992), *Final Report, Model Site Evaluation FY 1991-92*, Tempe, AZ: Arizona State University, Vocational Education (p. 6; Figure 1).

Figure 1.

Arizona's VTE Model


THINKING SKILLS
CAREER DEVELOPMENT SKILLS
APPLIED ACADEMIC SKILLS
LIFE MANAGEMENT SKILLS
BUSINESS, ECONOMIC & LEADERSHIP SKILLS
TECHNOLOGY SKILLS
EXPLORATION AND CORE SKILL DEVELOPMENT
OCCUPATIONALLY SPECIFIC SKILL DEVELOPMENT
Level One Grades 7-9 Technological Foundations
Level Two Grades 9-11 Technological Core
Level Three Grades 10-12 Technological Preparation
Level Four Grades 12+ Advanced Technology

The first dimension of the Model focuses on the breadth and depth of occupational training. The Model emphasizes a broader approach to careers in its initial stages and moves to more specific occupational training in the advanced stages. This progression is defined by a coherent sequence of instruction comprised of four levels of instruction—the second dimension of the Model. The four levels of instruction in the VTE Model, described in greater detail in Table 1-1, are Technological Explorations and Foundations (Level I), Technological Core (Level II), Technological Preparation (Level III), and Advanced Technology and Retraining (Level IV).

Finally, six curricular strands have been incorporated into the Model from its inception. These curricular strands address skill development in thinking, applied academics, career development, life management, technology, and business economics/leadership. Strands are intended to be continuous themes across occupational areas and throughout four levels of instruction that comprise the VTE Model. There is consensus in the literature that supports the inclusion of these six strands in vocational education (cf. NCVRE, 1989 Education Summit). By comparison, there is *not* consensus on *how* these skill areas should be defined or incorporated as part of the curriculum.

Table 1-1.

Vocational Technological Education (VTE) Model
Levels of Instruction

Level	Name and Description
I	***Technological Explorations and Foundations*** is intended to develop core skills in each of the six curricular strands and to provide occupational exploration experiences. Targets students in grades 7-9
II	***Technological Core*** is intended to enhance core skill development and to develop occupational awareness and skills in one or more "occupational clusters" as follows: —Applied Biological Systems —Business Management Technology —Human Services —Industrial Technology —Information Technology —Innovative Cluster (i.e., other) Targets students in grades 9-11
III	***Technological Preparation*** is intended to reinforce core skills and develop specific occupational competence in one program or more (e.g., horticulture; electronics) offered in the occupational areas of Agriculture, Business, Health Occupations, Marketing, Occupational Home Economics, and Trade and Industry. Targets students in grades 10-12
IV	***Advanced Technology and Retraining*** is intended to offer advanced occupational skills training. Targets postsecondary students

VTE Model Program Characteristics

Since developing the VTE Model, ADE/VTE personnel also have created the *Arizona Model for Vocational Technological Education Program Characteristics Checklist* (henceforth, the *Program Characteristics Checklist*). These characteristics focus on "essential" program elements at each level of the VTE Model that apply to students in grades seven through twelve (i.e., Levels I, II, and III). Program elements are defined in the areas of organization, curriculum, instructional delivery, facilities and equipment, and teacher qualifications.

The checklist has 20 criteria that define a "fully implemented VTE Model program." Morrison Institute analysts identified seven criteria that are unique to a particular level of the VTE Model. These criteria are differentiated from 13 that are common to all three levels of the VTE Model. "Unique" criteria are shown in Table 1-2, while "shared" criteria are given in Table 1-3. (Item numbers in Tables 1-2 and 1-3 reflect the placement of each item on ADE's *Program Characteristics Checklist*.) Unique and shared program characteristics were used to assess the implementation of the VTE Model in two separate, but related, studies conducted as part of Morrison Institute's 1993-94 contract with ADE. Descriptions of these studies comprise the remainder of Part One of this report.

Table 1-2.

Unique VTE Model Program Characteristics

Program Characteristic	Level I	Level II	Level III
I. Organization			
1. Instruction provides–	an exploration/skill development for all occupations.	skill development for a cluster of related occupations.	skill development for specific occupation(s).
2. Students served–	100% in the targeted grade levels (7-9).	• in the targeted grade levels (9-10) have previously completed a Level I experience. • Students have the opportunity to participate in more than one cluster, if desired.	in the targeted grade levels (11-12) have completed Level I and II experiences.
3. The experience is a minimum of–	one year in length or equivalent to 225 min/week.	one year in length or equivalent to 225 min/week.	360 hours in length.
4. The experience provides a coherent sequence of instruction–	required for all vocational technological programs.	with each cluster leading to at least one specific Level III experience.	which leads to employment and advanced training.
II. Curriculum			
8. Curriculum is designed to deliver all ADE-approved academic/occupational competencies in–	the draft Level I Framework.	at least one cluster.	specific occupation(s).
III. Instructional Delivery			
11. The instruction provides students with experiences in–	a variety of occupational areas.	occupational areas associated with the particular cluster(s).	specific occupation(s).
IV. Facilities and Equipment	**No unique characteristics in this category**		
V. Teacher Qualifications			
19. The teacher(s) are vocationally certified in–	vocational areas or, if a team of teachers instruct the Level I experience, at least one will be vocationally certified.	appropriate vocational areas related to the specific cluster content.	the specific vocational area.

Table 1-3.

Shared VTE Model Program Characteristics

I. Organization

5. The experience has the support of the local school/district administration.

6. An active advisory council assists in designing and implementing this experience.

II. Curriculum

7. Curriculum is competency-based with each student's attainment of each competency monitored.

9. Curriculum includes all six of the Model "Strands."

10. Curriculum provides for student leadership development, which can include the use of vocational student organizations.

III. Instructional Delivery

12. The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.

13. Students work in groups or teams frequently.

14. Instructional activities include industry-realistic situations and materials, and are evaluated according to industry-related standards.

15. The instructional delivery includes occupational experiences which can include shadowing and cooperative education.

IV. Facilities and Equipment

16. The instructional facility provides a multi-purpose environment with appropriate technology and support systems.

17. The environment simulates one that would be found in business and industry.

18. The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.

V. Teacher Qualifications

20. The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.

IMPLEMENTATION STUDY 1: SELF-REPORTED IMPLEMENTATION OF THE VTE MODEL

As part of Morrison Institute's 1993-94 contract, the Arizona Department of Education's Division of Vocational Technological Education (ADE/VTE) requested information about the status of ***all*** Arizona local educational agencies (LEAs) towards implementing the VTE Curriculum Model. Prior to this contract, this information was unavailable primarily because of a four-year history of mixed state and local funding and implementation efforts.

Chronologically, state appropriations for implementing the VTE Model were first made for the 1990-91 school year. Starting that year and continuing through 1992-93, ADE targeted funding for "Model sites" using an annual competitive grant process. LEAs with formula-funded, state-approved VTE programs were allowed to apply for targeted "Model site" funds in order to implement a *comprehensive* VTE Model program (i.e., all three levels of the model that pertain to students in grades 7-12) *or* a Level I, II, or III program singularly or in combination.

The 1993-94 school year witnessed a departure from previous years in that proposals were accepted *only* from LEAs planning to implement a comprehensive program in at least one occupational area (i.e., Agriculture, Business, Health Occupations, Marketing, Occupational Home Economics, or Trade and Industry). LEAs could request to use these grant funds to establish and implement all three levels of the Model or to implement one or two levels needed to complete the sequence of instruction necessary for a comprehensive program. This shift in funding was in keeping with the intent of ADE/VTE to move all districts in the state toward implementing comprehensive VTE Model programs.

During the same time period (between 1990 and 1994), some districts and schools reportedly implemented all or parts of the VTE Model without additional state "Model site" funding. The history of VTE Model Implementation was such that after four years of the Model being in effect, there was not an accurate inventory of VTE Model programs in the state. Implementation Study 1 was designed to help create a state-of-the-art picture of Arizona's progress in implementing the VTE Model.

A first step in this study was to develop a complete list of LEAs and their formula-funded (i.e., state-approved) VTE programs. This information was requested from ADE/VTE in July of 1993. Based on ADE records for FY 1992-93, it was determined that there were 1,137 state-approved VTE programs. These programs were operating in—

- 100 districts including 172 schools implementing:

  84 Agriculture Education programs,
  254 Business Education programs,
  38 Health Occupations Education programs,
  136 Marketing Education programs,
  192 Occupational Home Economics Education programs, and
  433 Trade and Industry Education programs[2].

[2] Figures exclude Diversified Cooperative Education programs; Also *may* exclude districts/schools implementing *only* Level I and/or Level II of the VTE curriculum model.

A second step in the study was to identify which of the 100 districts and 172 schools with state-approved, formula-funded VTE programs also had received "Model site" grant funding. Analyses of ADE records indicated that Model site funding was awarded to—

- 47 districts including 82 schools implementing:

  39 Level I programs
  36 Level II programs

  (3 Applied Biological Systems, 2 Business Management Technology, 5 Human Services, 4 Industrial Technology, 4 Information Technology, 1 Innovative Cluster, 17 unspecified/unknown)

  45 Level III programs

  (3 Agriculture Education programs, 7 Business Education programs, 3 Health Occupations Education programs, 6 Marketing Education programs, 6 Occupational Home Economics Education programs, 10 Trade and Industry Education programs, and 10 unspecified/ unknown)

  6 Comprehensive programs (Levels I-III), for a total of

- 126 "Model" programs (see Appendix A).

The VTE Model Components Questionnaire

In August and September of 1993, Morrison Institute researchers in consultation with ADE/VTE program staff developed a questionnaire for distribution to the 172 schools with at least one state-approved vocational program. LEAs were asked to indicate if they believed they had a Level I, Level II, and/or Level III program that met ADE-defined criteria according to the *Program Characteristics Checklist*. Questionnaires were customized for each of the 172 schools. Customization consisted of listing the state-approved VTE program(s) for that school according to ADE records.

Questionnaires were distributed at a meeting of local vocational directors on September 15, 1993 with a cover letter by the State Director for Vocational Education. Materials were mailed to local directors who were not in attendance at the September meeting. Responses were requested by September 30. Multiple contacts were made with local vocational directors through December 1993 by telephone, mail, and electronic communication. Follow-up was conducted both to obtain responses and to request clarification of reported information.

Questionnaire Results

This section summarizes key findings from the VTE Model Components Questionnaire.[3]

Ninety-four of the 100 districts responded to the survey for a 94 percent *district* response rate. Among these districts, 160 of the 172 schools responded for a *school* response rate of 93 percent[4]. Of the 160 responding schools:

- 92 schools reported fully implementing a VTE Model Level I program.
- 113 schools reported fully implementing a total of 289 VTE Model Level II programs.
- 132 schools reported fully implementing a total of 679 VTE Model Level III programs.

The 679 reported Level III Model programs represent 60 percent of all formula-funded, state-approved programs. This indicates that a majority of LEAs believe that they have one or more programs that meet ADE "Model program" criteria at Level III. By occupational area, districts reported implementing—

- 66 Level III Model programs in Agriculture Education (79% of the state-approved total)
- 165 Level III Model programs in Business Education (65% of the state-approved total)
- 28 Level III Model programs in Health Occupations Education (74% of the state-approved total)
- 71 Level III Model programs in Marketing Education (52% of the state-approved total)
- 80 Level III Model programs in Occupational Home Economics Education (42% of the state-approved total)
- 269 Level III Model programs in Trade and Industry Education (62% of the state-approved total).

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[3] Supporting documentation and additional information on this study can be found in the December 1993 report *Implementing the Vocational Technological Education Model in Arizona* by Vandegrift, J.A., Noble, A.J., and Sullivan, H.J. Tempe, AZ: Arizona State University, Morrison Institute for Public Policy.

[4] Six districts, including eight schools, did not respond at all to the survey: Benson UHSD (Benson Union High School); Chandler Unified District (Chandler High School, John M. Anderson Junior High School, Willis Junior High School); Gilbert Unified District (Gilbert High School); Grand Canyon Unified District (Grand Canyon High School); Patagonia UHSD (Patagonia Union High School); and Santa Cruz Valley Unified District (Calabasas School). In addition, the following four schools did not respond: Chaparral High School (Scottsdale Unified District) and Cholla, Rincon, and University High Schools (Tucson Unified).

The distribution and configuration of all LEA-reported Model programs is shown in Table 1-4.

Table 1-4.

Number of Schools Reporting VTE Model Programs by Level (N = 160)

	Level I	Level II	Level III
	Levels I, II and III in place — *Comprehensive* programs (72 schools)		
Level I	Level I *only* (8 schools)	Levels I and II (4 schools)	Levels I and III (8 schools)
Level II		Level II *only* (1 school)	Levels II and III (36 schools)
Level III			Level III *only* (16 schools)
	No "Model" Level I, II, or III programs in place (15 schools)		

This table reveals that 72 schools (45 percent of the schools responding) report implementing a Level I-II-III "comprehensive" Model program in at least one occupational/program area.

The next three rows of Table 1-4 reveal that a total of 73 schools report implementing one or two, but not all three, levels of the VTE Model. That is, eight schools report having a Level I Model program only, four report having Levels I and II, and so on.

Finally, 15 schools report that they do not have a program that meets ADE-defined criteria at any level of the VTE Curriculum Model. Typically, these 15 schools reported coursework in an occupational area (e.g., typing) but did not consider these courses as Model programs.

In summary, this study was designed to determine the total number of LEAs that believe they are implementing one or more levels of the VTE Model. The population of LEAs studied consisted of 172 schools in 100 districts identified as having state formula-funded VTE programs. Based on self-reported data, the status of ***all*** 172 schools toward implementing the VTE model is summarized in Table 1-5.

Table 1-5.

Status of *All* LEAs with VTE Programs Toward Implementing the VTE Model (N = 172)

Implementation Status	# schools[a]
At least one *comprehensive* occupational training program (i.e., a program with a Level I-III sequence of instruction)	72
Either one or two levels of the VTE Model	73
No VTE Model programs in place	15
Unknown (No response)	12

a Numbers are unduplicated, even though schools might offer multiple training programs in various stages of implementation. Descriptors were applied by default — If not at least one comprehensive program, then at least one partial program, etc.

Table 1-5 shows that there are a total of 145 schools (72 + 73) that believe they are implementing one or more levels of the VTE Model according to ADE-defined criteria. These schools report high numbers of Level I, Level II, and Level III Model programs (92, 289, and 679, respectively). Specifically at Level III, over half of all LEA respondents believe they offer Model programs in accordance with ADE standards. This finding holds true in all occupational areas except for Occupational Home Economics Education.

Researchers also examined the extent to which "Model site" funding is linked with the reported implementation of *comprehensive* programs. As previously noted, ADE has funded 47 districts since 1990 for the express purpose of implementing one or more levels of the VTE Model toward establishing comprehensive programs.

On the questionnaire, a comprehensive program was reported in 52 districts containing 72 schools. Comparing these 52 districts with a list of districts that have been funded as Model sites (Appendix A), only 29 of the 52 received this additional state funding. This means that 23 districts developed comprehensive programs without state "Model site" funding. It also means that 18 Model-funded districts reported *not* offering all three levels of the VTE Model, even though some were funded explicitly to do so.

Overall, the results of Implementation Study 1 raised a number of questions regarding the implementation of the VTE Model in Arizona such as:

- What *does* a comprehensive program look like?
- What barriers exist that prevent some districts from implementing comprehensive programs?
- To what extent do ADE "Model site" grants contribute to the full implementation of the VTE Model?

IMPLEMENTATION STUDY 2: SITE VISITS TO VTE PROGRAMS

Implementation Study 2—Site Visits to VTE Programs—was conducted to examine the implementation of the VTE Model in a sample of 12 school districts. The study was designed as a follow-up to the survey of 172 schools described in Study 1.

Site Selection and Site Visit Methods

Sites were chosen to represent a balance across four characteristics.

- **Comprehensive versus Non-Comprehensive programs**: Half of the schools selected for study had reported on the VTE Model Components Questionnaire that they offered a Level I-II-III sequence of instruction meeting ADE criteria for a fully implemented Model program; half reported *not* offering a comprehensive program.

- **ADE Model-funded versus Not Model-funded sites**: Half of the sites chosen had received state grant funding toward implementing a comprehensive program; half had not. Of the six state-funded sites, three were self-described comprehensive programs and three were not. Of the six nonfunded sites, three were self-described comprehensive programs and three were not.

  In order to more equitably compare the three state-funded comprehensive programs with the three state-funded non-comprehensive programs, sites were matched with respect to the number of years funded (i.e., four years, three years, or two years).

- **Urban/Metropolitan versus Rural/Reservation areas**: Sites were selected to represent VTE programs statewide. Four sites represent urban/metropolitan areas and eight were chosen to illustrate rural/reservation sites. Eight of Arizona's 15 counties are represented by these sites including Cochise, Coconino, Gila, Maricopa, Mohave, Navajo, Pinal, and Yuma counties. (One Pima county school dropped out of this voluntary study and was replaced by a Maricopa county school.)

- **Occupational/Program areas**: To the degree possible, sites were matched in terms of the kind of VTE program visited (i.e., with respect to both the occupational area and specific program area). Thus, researchers compared a comprehensive Agricultural Business and Management program with a non-comprehensive Agricultural Business and Management program and so forth. In all cases, sites were matched with respect to occupational areas. In some cases, specific program areas could not be matched. Based on the combination of all variables, five occupational areas were studied. No matched Marketing Education programs were identified.

A list of the 12 schools and synopsis of site characteristics is shown in Table 1-6 on the next page.

Table 1-6.

VTE Program Site Visits

		Comprehensive Programs	Non-Comprehensive Programs
ADE "Model-funded"	Urban/ Metropolitan	• **Peoria Unified** (4 years funding) Site/Program: Ironwood HS/ Health Occupations– Nursing Assistant	• **Deer Valley Unified** (4 years funding) Site/Program: Deer Valley VTech/ Health Occupations– Nursing Assistant
	Rural/ Reservation	• **Mohave UHSD** (3 years funding) Site/Program: Kingman HS/ Trade and Industry– Video Production	• **Flagstaff Unified** (3 years funding) Site/Program: Coconino HS/ Trade and Industry– Electronics
		• **Buckeye UHSD** (2 years funding) Site/Program: Buckeye Union HS/ Agriculture– Business & Management	• **Valley UHSD** (2 years funding) Site/Program: Valley Union HS/ Agriculture– Business & Management
Not "Model-funded"	Urban/ Metropolitan	• **Fountain Hills Unified** Site/Program: Fountain Hills Jr/Sr HS/ Trade and Industry– Radio & TV Production	• **Yuma UHSD** Site/Program: Kofa HS/ Trade and Industry– Drafting
	Rural/ Reservation	• **Miami Unified** Site/Program: Miami HS/ Home Economics– Child Development	• **Apache Junction Unified** Site/Program: Apache Junction HS/ Home Economics– Food Production
		• **Whiteriver Unified** Site/Program: Alchesay HS/ Business– Administrative Support	• **Holbrook Unified** Site/Program: Holbrook HS/ Business– Administrative Support

Information about the selected program at each site was collected by conducting a structured interview with one or more administrators and/or faculty members associated with the program, reviewing program documents, touring the program facilities and, in some cases, talking with students from the program. The structured interview was based in large part on the *Arizona Model for Vocational Technological Education Program Characteristics Checklist.* Information from the site visits and interviews was used to complete a site visit report and program characteristics checklist for each program.

Level III programs were selected as the focus area for the visit to each site because they represent the highest level of a comprehensive program and, therefore, provide a good perspective for examining the overall vocational technological education experience for students. Because all 12 visits were to high schools, more complete information often was available for Level II and Level III than for Level I.

Individual site visit reports and accompanying checklists are contained in Appendix B. Data for all 12 programs are presented in the **Site Visit Results** section that follows.

Site Visit Results

This section addresses several separate analyses of site visit data. Data are summarized for all 12 programs collectively, with distinctions drawn between comprehensive and non-comprehensive programs (using the districts' classification of their own programs as comprehensive or non-comprehensive). Differences are also discussed between ADE-funded and nonfunded programs. Finally, data from all sites are analyzed in terms of shared and unique program characteristics.

Analyses by School and Program Type

Table 1-7 on the following page reflects the judgments of Morrison Institute researchers on ADE-defined *Program Characteristics* by the type of program, school, and ADE/VTE Model level for the 12 schools visited. Each individual program was judged on 61 program characteristics—20 for Level I, 21 for Level II (because one criterion has two parts), and 20 for Level III.

As explained at the bottom of the table, the three numerical entries for each school represent "yes-no-not sure" judgments with respect to the 61 program characteristics examined. "Yes" entries indicate that a program fully met the ADE criterion; "No" entries indicate a partial implementation or absence of a characteristic. "Not sure" entries are used in cases where the site evaluator did not have the opportunity to verify the presence or absence of a characteristic, or when data were ambiguous. The larger number of "no" and "not sure" judgments for Level I is due to the fact that most Level I courses are in elementary or middle/junior high school sites not visited by the researchers or that the site does not offer a Level I program.

Table 1-7.

Program Characteristics by Program Type, School and Model Level

Self-Classification	School No.	Level and # Characteristics			Totals (61 possible characteristics per site)
		I (20)	II (21)	III (20)	
		yes-no-ns	yes-no-ns	yes-no-ns	yes-no-ns
Comprehensive-Model-funded	1	* 3-2-15	16-4-1	17-3-0	36-9-16
	2	10-2-8	18-1-2	18-1-1	46-4-11
	3	14-3-3	15-3-3	19-1-0	48-7-6
Comprehensive-Not Model-funded	4	4-14-2	6-14-1	9-10-1	19-38-4
	5	5-6-9	16-3-2	15-5-0	36-14-11
	6	12-2-6	18-1-2	17-2-1	47-5-9
Non-comprehensive-Model-funded	7	18-2-0	20-1-0	19-1-0	57-4-0
	8	2-18-0	10-6-5	18-2-0	30-26-5
	9	0-20-0	14-5-2	16-3-1	30-28-3
Non-comprehensive-Not Model-funded	10	5-9-6	12-7-2	15-5-0	32-21-8
	11	7-12-1	10-10-1	14-6-0	31-28-2
	12	0-20-0	15-3-3	18-1-1	33-24-4
Totals by Type	Comprehensive	48-29-43	89-26-11	95-22-3	232-77-57
	Non-comprehensive	32-81-7	81-32-13	100-18-2	213-131-22
	Model-funded	47-47-26	93-20-13	107-11-2	247-78-41
	Nonfunded	33-63-24	77-38-11	88-29-3	198-130-38
Overall Totals		80-110-50	170-58-24	195-40-5	445-208-79

*Entries in the table represent judgements by Morrison Institute researchers on program characteristics for each school. For example, the 3-2-15 entry for School 1, Level I indicates that School 1 received 3 "yes" checks (i.e., had 3 of the 20 characteristics) on the *Program Characteristics Checklist* for Level I, two "no" checks and 15 "not sure" checks. The "Totals by Type" show the total number of "yes-no-not sure" responses across all six schools of each type—comprehensive and non-comprehensive, and Model-funded and not Model-funded. The "Overall Totals" show the total numbers for all 12 schools.

Data aggregated at the bottom of the table permit comparisons of comprehensive and non-comprehensive sites and funded and nonfunded sites. The complete data on an item-by-item basis for each individual school is contained with the report for that school in Appendix B. Summary tables that compare a) comprehensive and non-comprehensive and b) funded and non-funded sites also are provided for reference in Appendix C.

School Findings: Examination of the data for each school reveals that none of the 12 schools had all characteristics for a fully implemented VTE Model program. School #7, which was self-described as a non-comprehensive program, came closest to having all 61 of ADE's program characteristics with 57 "yes" ratings, four "no" ratings, and no "not sure" ratings. School #4, self-described as a comprehensive program, was farthest from having all of the ADE program characteristics, with only 19 of 61 characteristics receiving "yes" ratings.

Notwithstanding the number of "not sures" at Level I, it is clear both from examination of the researcher judgments across levels in the table and from the overall totals at the bottom that programs have progressively more Model program characteristics as they move from Level I to Levels II and III. This finding holds true regardless of program type (i.e., funded or nonfunded, comprehensive or non-comprehensive).

Comprehensive and Non-comprehensive Program Comparisons: In general, for the 12-school sample, schools that reported themselves as having a comprehensive program met slightly more of the ADE criteria for a fully implemented VTE Model program than schools that reported themselves as non-comprehensive (with 232 yes ratings compared to 213). Overall, three of the comprehensive program sites (Schools #2, #3, and #6) had at least two-thirds of the Model characteristics, and two sites (Schools #1 and #5) had over half. By comparison, five of the non-comprehensive sites (Schools #8-12) had approximately half of the program characteristics.

The self-described comprehensive programs are more "model-like" overall and for Levels I and II, but not Level III. That is, the higher the level, the more the differences between comprehensive and non-comprehensive programs in terms of Model program characteristics diminish. In fact, at Level III, self-described *non-comprehensive* programs maintain a slight advantage over self-described comprehensive programs in terms of "yes" ratings (with 100 yes ratings compared to 95).

Each of the self-reported non-comprehensive programs considered themselves as non-comprehensive primarily because of their Level I program (cf. Appendices C and D). Of the six sites, two had no Level I program at all, two had district-defined Level I programs that school personnel believed did not meet ADE criteria for a Model program, and two had ADE-like Level I programs that staff believed did not meet ADE criteria. This accounts for the high number of "no" ratings for Level I programs at non-comprehensive sites.

Specific differences between comprehensive and non-comprehensive programs for each program characteristic at each level of the Model are presented in detail in Appendix C and summarized here briefly. Comparing what *does* exist at Level I, comprehensive Level I programs tended to be year-long, broader exploration courses which utilized ADE draft

Level I curricula. Comprehensive Level I programs also reported monitoring student competency attainment to a greater degree than non-comprehensive programs.

At Level II, differences are not as pronounced between comprehensive and non-comprehensive programs as they are in Level I. Nevertheless, comprehensive programs appear to be more cognizant of developing skills for a cluster of related occupations and to be offered for a full year. Similar to their Level I counterparts, Level II programs in comprehensive sites report monitoring student competency attainment more than in non-comprehensive Level II programs. Level II comprehensive programs also appear to have better facilities and equipment. No noteworthy distinctions between comprehensive and non-comprehensive Level III programs were observed in the site visits.

Notably, each group has an "outlier" site (a site where scores are beyond the "average" or typical range of scores for that group). School #4 in the comprehensive category had the lowest number of "yes" entries of any school, with 19 of 61 program characteristics rated as "yes." School #7 in the non-comprehensive category had the highest number of "yes" entries of any school, with 57 of 61 program characteristics rated as "yes." Site observations and interviews help explain the ratings of these two schools. In School #7, personnel rated their program as non-comprehensive because they are extremely well-versed in the ADE criteria for a fully implemented Model program and knew they did not meet all criteria. For example, their Level I experience is a year-long, district-requirement for all students *except for those enrolled in band.* This excludes the school from meeting the "100% served" criterion measure (Organization #2 on the *Program Characteristics Checklist*). Similarly, transfer students are enrolled in Level II and Level III programs; therefore, staff exclude themselves from meeting the Organization #2 item for Levels II and III as well.

Conversely, School #4 staff rated themselves as having a comprehensive program irrespective of the ADE *Program Characteristics Checklist*. School #4 staff were not familiar with the ADE/VTE Model, ADE-approved curriculum materials, ADE strands, and so forth. They said they had been "left out of the loop." Nonetheless, staff had created a competency-based program of their own which they considered to be "comprehensive."

The two extremes represented by Schools #4 and #7—one good program rating itself severely and another adequate program rating itself leniently—raise the issue of the subjectivity of ADE-defined Model Program Characteristics. This topic is addressed in the discussion section.

Model-funded and Not Model-funded Program Comparisons: Based on totals by type in Table 1-7, model-funded programs meet more of the ADE criteria for a fully implemented Model program than do programs that have not received Model funding. Model-funded programs received more "yes" ratings than programs not funded at all levels of the VTE Model (247 yes ratings compared to 198).

Specific differences between Model-funded and nonfunded programs for each program characteristic at each level of the Model are presented in detail in Appendix C and summarized here briefly. Level I programs at Model-funded sites tended to be year-long, broader exploration courses which utilized ADE draft Level I curricula, incorporating the six Model strands. Funded Level I programs also reported monitoring student competency

attainment to a greater degree than programs that have not received Model funding. In funded programs, a greater number of teachers of the Level I experience are vocationally certified.

At Level II, Model-funded programs were more cognizant of developing skills for a cluster of related occupations, had in place more than one Level II experience (thus allowing students to participate in more than one cluster, if desired), and focused instructional delivery on the occupational areas associated with a particular cluster. Model-funded Level II programs reported monitoring student competency attainment, incorporating the six Model strands, and including occupational experiences for students more than Level II programs that had not received Model funds. Level II Model-funded programs were observed to have better facilities and equipment.

There are no noteworthy distinctions between Model-funded and nonfunded Level III programs in terms of program characteristics "unique" to Level III. However, on common criteria (shared across levels), Level III funded programs incorporated the six Model strands and employed instructional delivery techniques aligned with industry-related standards, including occupational experiences. Furthermore, Model-funded Level III programs maintained an advantage over nonfunded programs with respect to facilities and equipment.

Facilities and equipment appear to be one of the main features that distinguish between funded and nonfunded sites. Based on interview data, personnel at most funded sites indicated that ADE funds allowed them to purchase state-of-the-art equipment. Furthermore, observations of facilities suggest that funded sites have *more* and *newer* equipment than nonfunded sites.

Analyses by Program Characteristics

The next set of analyses use site visit data for all 12 sites. The discussion focuses on issues related to implementing the VTE Model as a whole (in terms of shared program characteristics) and issues that are pertinent to each level of the Model (in terms of unique program characteristics).

Shared Program Characteristics: Table 1-8 on the following page shows the Morrison Institute researchers' judgments regarding the presence or absence of each of the shared program characteristics on the ADE *Program Characteristics Checklist*. Table 1-8 allows one to tentatively identify overall implementation problems and problems at each level of the Model that are associated with shared program characteristics. "Problem" areas are identified as those where less than half of the programs studied have "yes" entries and are indicated by the shaded areas on Table 1-8. The absence of a "yes" rating suggests that programs are not "in compliance" with the ADE criterion.

Table 1-8.

VTE Model Implementation On Shared Characteristics (All Sites)*

Shared Program Characteristics	Level I (n = 12)			Level II (n = 12)			Level III (n = 12)			Totals (N = 36)		
	yes	no	not sure	yes	no	not sure	yes	no	not sure	yes	no	not sure
Organization (5) The experience has the support of the local school/district administration.	6	3	3	10	0	2	12	0	0	28	3	5
Organization (6) An active advisory council assists in designing and implementing this experience.	2	6	4	10	2	0	10	2	0	22	10	4
Curriculum (7) Curriculum is competency-based; each student's attainment of each competency is monitored.	4	4	4	10	0	2	11	0	1	25	4	7
Curriculum (9) Curriculum includes all six of the Model "Strands."	2	6	4	2	10	0	2	10	0	6	26	4
Curriculum (10) Curriculum provides for student leadership development, which can include the use of VSOs.	1	7	4	11	1	0	11	1	0	23	9	4
Instructional Delivery (12) The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	7	3	2	11	0	1	12	0	0	30	3	3
Instructional Delivery (13) Students work in groups or teams frequently.	7	3	2	9	0	3	12	0	0	28	3	5
Instructional Delivery (14) Instructional activities include industry-realistic situations and materials, and are evaluated according to industry-related standards.	3	5	4	3	5	4	8	4	0	14	14	8
Instructional Delivery (15) The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	1	5	6	2	2	8	8	1	3	11	8	17
Facilities and Equipment (16) The instructional facility [is] a multi-purpose environment w/appropriate technology and support systems.	4	6	2	8	4	0	9	3	0	21	13	2
Facilities and Equipment (17) The environment simulates one that would be found in business and industry.	2	5	5	6	5	1	7	5	0	15	15	6
Facilities and Equipment (18) The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	3	5	4	9	3	0	9	3	0	21	11	4
Teacher Qualifications (20) The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	7	3	2	12	0	0	12	0	0	31	3	2
Totals	49	61	46	103	32	21	123	29	4	275	122	71

* "Problem" areas are identified as those where less than half of the programs studied have "yes" entries. Problem areas are shaded in the table.

As derived from Table 1-8, nine of the thirteen shared characteristics at Level I appear as areas of concern. In rank order from most to least problematic, Level I programs tend ***not*** to:

- provide for student leadership development (Curriculum #10) or occupational experiences (Instructional Delivery #15)
- involve an active advisory council (Organization #6), include all six Model strands (Curriculum #9), or simulate a business and industry environment (Facilities and Equipment #17)
- include industry-realistic situations and materials, evaluated according to industry-related standards (Instructional Delivery #14) or use equipment and materials determined on the basis of the curriculum and industry standards (Facilities and Equipment #18)
- offer a competency-based curriculum and monitor students' competency attainment (Curriculum #7) or use a multi-purpose environment (Facilities and Equipment #16).

At Level II, only three characteristics are not met by at least half of the programs. Level II problem areas relate to the integration of the six Model curriculum strands (Curriculum #9), the provision of occupational experiences (Instructional Delivery #15), and the incorporation of industry-realistic situations and materials (Instructional Delivery #14).

Finally, at Level III, the 12 programs visited are generally not in compliance with only one shared characteristic—the integration of the six Model curriculum strands (Curriculum #9). Only two of the 12 programs knowingly incorporated all six of the Model stands.

Following the totals provided at the right-hand side of Table 1-8, for all programs across all levels of program implementation, four characteristics appear problematic:

- the integration of the six curriculum strands (Curriculum #9)
- the inclusion of occupational experiences (Instructional Delivery #15)
- the use of industry-realistic situations and materials evaluated according to industry-realistic standards (Instructional Delivery #14)
- the provision of a simulated business and industry environment (Facilities and Equipment #17).

Overall, the 12 programs were more successful in satisfying shared characteristics for Level III (with 123 yes, 20 no, and 4 not sure entries) than for Level II (103 yes, 32 no, and 21 not sure), and more successful in satisfying characteristics for Level II than for Level I.

Unique Program Characteristics: Table 1-9 on the following page shows the Morrison Institute researchers' judgments regarding the presence or absence of each of the unique program characteristics on the ADE *Program Characteristics Checklist*. Table 1-9 allows one to identify implementation problems unique to each level of the Model with respect to the sample. As in the previous analysis, "problem" areas are identified as those where less than half of the programs studied have "yes" entries, and are indicated by the shaded areas on Table 1-9.

As derived from Table 1-9, five of the seven unique characteristics at Level I appear as areas of concern. In rank order from most to least problematic, Level I programs tend *not* to:

- provide a coherent sequence of instruction *required* for all vocational technological programs (Organization #4)
- serve 100% of the students in the targeted grades (Organization #2)
- provide an experience equal to one year in length or equivalent to 225 minutes per week (Organization #3) or utilize ADE-approved curriculum (Curriculum #8)
- provide an exploration experience for *all* occupations (Organization #1).

At Levels II and III, only one characteristic is unmet by at least half of the programs. Both of the higher levels tend to ***not*** have students previously enrolled in a Level I experience. This "prerequisite" characteristic is the most frequently unmet "unique" characteristic for all programs across all levels.

Similar to the findings for shared characteristics, the 12 programs were more successful in satisfying unique characteristics for Level III than for Level II, and more successful in satisfying characteristics for Level II than for Level I.

In analyzing both Table 1-8 and 1-9, it is somewhat arbitrary to designate a characteristic as indicating a problem if less than half of the programs have that characteristic. Morrison Institute analysts could just have easily used two-thirds or three-quarters of sites without a characteristic as a criterion measure. In either of the latter cases, there would be significantly more "problem areas" noted in Tables 1-8 and 1-9. ADE/VTE personnel should review the findings with this caveat—and their own criteria—in mind.

Table 1-9.

VTE Model Implementation On Unique Characteristics (All Sites)*

Unique Program Characteristics**	Level I (n = 12)			Level II (n = 12)			Level III (n = 12)			Totals (n = 13)		
	yes	no	not sure	yes	no	not sure	yes	no	not sure	yes	no	not sure
Organization (1) Instructional scope	5	7	0	8	4	0	12	0	0	25	11	0
Organization (2a) Students served/prerequisites	3	9	0	3	9	0	3	9	0	9	27	0
Organization (2b) Students have the opportunity to participate in more than one cluster, if desired.		N/A		9	1	2		N/A		9	1	2
Organization (3) Length of experience	4	8	0	10	1	1	12	0	0	26	9	1
Organization (4) Sequence	2	10	0	7	5	0	11	0	1	20	15	1
Curriculum (8) ADE-approved curriculum designed to deliver academic and occupational competencies	4	6	2	9	3	0	11	1	0	24	10	2
Instructional Delivery (11) The instruction provides students with experience in [appropriate] occupational areas.	7	5	0	9	3	0	12	0	0	28	8	0
Teacher Qualifications (19) The teacher(s) are [appropriately] vocationally certified.	6	4	2	11	1	0	11	1	0	28	6	2
Totals	31	49	4	66	27	3	72	11	1	169	87	8

* "Problem" areas are identified as those where less than half of the programs studies have "yes" entries. Problem areas are shaded in this table.

** Generic descriptors of these program characteristics are provided in this table. For the complete criteria applicable to each level, see Table 1-2.

DISCUSSION

The two previously discussed studies were conducted to determine the extent to which the VTE Model is being implemented in Arizona schools. In both studies, "modelness" was defined on the basis of ADE-defined criteria as outlined in the *Arizona Model for Vocational Technological Education Program Characteristics Checklist*. Morrison Institute researchers investigated the extent to which individual levels of the VTE Model were being implemented, as well as the extent to which *comprehensive* Model programs (i.e., those with a Level I-II-III sequence) were being implemented.

Implementation Study 1 involved surveying 172 schools in the state with formula-funded, state-approved VTE programs. Forty-five percent of these schools (72) believe they offer a Level I-II-III *comprehensive* VTE program in at least one occupational/program area. A total of 145 schools believe they offer VTE Model programs in at least one of the levels of curriculum defined by the VTE Model.

A total of 100 districts were surveyed in Implementation Study 1. Fifty-two of these districts reported having at least one *comprehensive* VTE Model program. Of these 52 districts, 29 districts had received "Model site" funding to assist them in implementing a comprehensive program.

Implementation Study 1 raised several questions about the implementation of the VTE Model in Arizona. Moreover, there was some question about the veracity of self-reported data. Both as a "reality check" on the findings from Study 1, and as a more in-depth pilot study about the implementation of the VTE Model, Implementation Study 2 was designed.

Implementation Study 2 was conducted to determine the extent to which the Arizona Vocational Technological Education Model was being implemented in a sample of 12 schools and to identify problems with its implementation. The data for the 12 schools to which site visits were made revealed that none of the programs had all of the characteristics of a fully implemented Model program as defined by ADE. However, the results varied considerably by program level, with programs having progressively more Model characteristics as the program level increased from Level I to Level II to Level III.

The site visits revealed several reasons that Level I courses generally did not satisfy the Model characteristics for this level. Most Level I courses did not provide skill exploration across all or most occupational areas, but instead covered a limited number of occupational areas. Most Level I courses were only a semester in length, rather than a year as called for in the VTE Model Characteristics. A Level I course typically was not required of all students at the targeted grade level, and a Level I course seldom was a prerequisite for courses at Levels II and III. Because of the survey nature of Level I courses, they normally were not industry realistic with regard to either instructional activities or facilities and equipment.

One reason that Level I courses were not better integrated into an instructional sequence is their location in different schools from the Level II and Level III courses. The site visits revealed that vocational-technological courses and programs typically are not articulated well between high schools and their feeder schools. The junior high schools and high schools normally operated quite independently, and it was unusual for programs to be

planned well across these levels. Thus, even when junior high school courses satisfied many other model characteristics, they rarely were designated as prerequisites for the high school courses. Furthermore, it seldom is feasible for a district to purchase an array of industry-realistic equipment for both junior and senior high schools, so districts that can afford such equipment typically locate it in the high schools to serve their need for more advanced training.

Level II courses had more Model program characteristics than Level I courses at all 12 of the visited sites. Level II courses were better articulated with Level III courses and often shared some of the advanced equipment. Level II courses were much more successful than Level I courses, but not as successful as Level III, in satisfying Model characteristics related to industry realism of instructional activities and of facilities and equipment. In addition, courses designated as Level II in several schools did not satisfy the Model characteristic of providing skills development for a cluster of related occupations, but instead were the first course in a two-course sequence in a single occupational area (e.g., Video Production I and Video Production II).

Level III courses were most successful in satisfying the Model program characteristics. Four of the 12 programs had only one rating of "no" at Level III, and seven more had five or fewer "no" ratings at this level. However, even at this level, certain Model characteristics were not present at several sites. Students were required to complete both Level I and Level II courses prior to Level III at only three of the 12 sites primarily because a Level I course was not a requirement at most sites. The curriculum included all six of the Model strands at only two sites at Level III and also at Levels I and II. Personnel at most sites either were not knowledgeable about the Model strands or planned and implemented their programs prior to knowing about them. Finally, several Level III programs were evaluated as not having instructional activities, facilities, and equipment that met or simulated realistic industry standards.

The 12 programs consistently satisfied several of the Model characteristics at all three program levels. Characteristics for which there were few "no" ratings at any level related to the experience of having administrative support, the teacher serving as a facilitator of instruction, students working in groups or teams frequently, and teachers having recent inservice training. It seems virtually inevitable that courses would receive "yes" ratings on at least the first three of these characteristics because of how they are worded. A school probably could not offer a course if the course did not have administrative support, teachers generally serve as instructional facilitators who manage a variety of learning experiences, and teachers almost invariably report that their students work in groups or teams frequently. Rewording these characteristics could help to make them more discriminating between stronger and weaker programs; eliminating them is also a possibility.

Although no individual program had all of the Model program characteristics at all three levels, one program had nearly all of them (57 of 61 across these levels) and two others had only one or two "no" ratings across Levels II and III combined. All three of these programs had at least one "no" rating because a Level I experience was not a prerequisite for taking higher level courses.

The site visit data on comprehensive and non-comprehensive programs, as classified by local district officials who completed the VTE Model Components Questionnaire in Study 1, indicated that self-classified comprehensive and non-comprehensive programs differ from each other primarily at Level I. At Level I, non-comprehensive programs either do not offer a Level I experience or do not offer an experience that meets ADE criteria. At both Level II and Level III, however, the overall site visit ratings were similar for comprehensive programs and non-comprehensive programs.

Data suggest that, in most cases, the district officials who classified their programs as comprehensive or non-comprehensive programs did so at least partly on the basis of their overall evaluation of the programs rather than on a careful audit of each program against the VTE Model *Program Characteristics Checklist.* This finding suggests caution in interpreting the results of Implementation Study 1. Even so, the comparison of comprehensive and non-comprehensive sites shows that sites that report themselves as comprehensive *do* tend to meet more of the ADE-defined criteria for a comprehensive Model program. This lends some credibility to the self-reported data gathered in Implementation Study 1.

Site visit data on Model-funded and nonfunded programs indicated that funded programs meet more of the ADE Program Characteristics than do nonfunded programs at all levels of Model implementation. Funded programs are more "in compliance" with the program characteristics with respect to ADE curricula, Model strands, and overall alignment. This could be due to the fact that ADE staff might be more visible and provide more technical assistance to sites that receive funding. Furthermore, Model-funded sites appear to have a distinct advantage over nonfunded sites in terms of more and newer facilities and equipment that meet industry standards. In sum, ADE "Model site" funding appears to make a difference in the degree to which sites are implementing the VTE Model.

A limitation of the site visit study is that it included only 12 programs. Certainly, considerable caution should be exercised in making assumptions about the degree to which the specific findings from the sample in this study would be represented in the entire population of ADE-approved VTE programs in Arizona. Nevertheless, it is likely that the data from this pilot study generally are good indicators of the Model program characteristics that programs typically satisfy and those they often do not.

PART TWO

LEA PROCEDURES IN CONDUCTING PERFORMANCE STANDARDS EVALUATIONS IN ARIZONA

This section of the report describes Arizona's Performance Standards and Measures and a study conducted by Morrison Institute analysts of how local educational agencies conduct their Performance Standards evaluations.

ARIZONA'S PERFORMANCE STANDARDS

In accordance with the Perkins Act of 1990, ADE's Division of Vocational Education developed "Performance Standards" (Figure 2) to measure student outcomes with reference to occupational training programs. The implementation of Performance Standards evaluations reflected a shift *away* from compliance reporting *to* reporting on student performance. As stated in the ADE/VTE document *A Teacher's Guide to Performance Standards for Vocational Technological Education* (henceforth the *Teacher's Guide*), "The philosophy behind Performance Standards is to establish goals to strive for through *program improvement*" (p. 1).

ADE/VTE developed a comprehensive manual and the *Teacher's Guide* to assist LEAs in implementing Performance Standards evaluations. On the Performance Standards reporting forms applicable for 1992-93 and 1993-94, LEAs were asked to provide student information in four categories:

- competency gains in the achievement of basic and more advanced academic skills;
- occupational competency attainment;
- high school enrollment/graduation; and
- postsecondary training or education, military service or employment.[5]

Performance Standards data are to be collected annually and compiled by local districts. Reporting forms are extensive and request information on each standard (36 questions total) for each course in each program. Most questions require local districts to disaggregate data for each course/program by the number of regular, special needs, and total students (i.e., there are three numbers reported in each "cell" of the reporting form). Forms require the reporting of numbers and percentages of students judged to have demonstrated academic skills, attained occupational competencies, and so forth. Forms are comprised exclusively of dichotomous (yes-no) and categorical data.

[5] Districts/schools were exempt from reporting on this measure for FY 1992-93.

ADE/VTE documents enumerate guidelines for districts/schools in preparing the Performance Standards evaluation reports. These include the appointment of a Local Evaluation Coordinator and Local Evaluation Team, who are charged with conducting the evaluation and ensuring compliance with data gathering methods and reporting procedures.

Figure 2. Arizona's Performance Standards

MEASURE 1. Demonstrate competency gains, including student progress, in the achievement of basic and more advanced academic skills.

STANDARD 1.1: All of the course completers who do not possess the identified skills at the beginning of the course/program will demonstrate gains in the achievement of the related *basic academic skills* associated with the course/program. The student's course/program may be modified through an Individual Vocational Education Plan (IVEP).

STANDARD 1.2: All of the course completers who do not possess the identified skills at the beginning of the course/program will demonstrate gains in the achievement of the *more advanced academic skills* associated with the course/program. The student's course/program may be modified through an IVEP.

MEASURE 2. Demonstrate occupational competency attainment.

STANDARD 2.1: Eighty percent (80%) of the course completers will demonstrate attainment of at least eighty percent (80%) of the occupational competencies/tasks associated with the course. The student's course/program may be modified through an IVEP.

STANDARD 2.2: One hundred percent (100%) of the program completers will demonstrate attainment of at least eighty percent (80%) of the occupational competencies/tasks associated with the course. The student's course/program may be modified through an IVEP.

MEASURE 3. Continue attending or complete secondary school.

STANDARD 3.1: Ninety percent (90%) of the students who enroll in a course which is part of an approved vocational technological program will continue attending/complete secondary school.

MEASURE 4. Placement into additional training or education, military service, or employment.

STANDARD 4.1: Ninety percent (90%) of the students completing an approved vocational/technological program will be placed into additional training or education in an accredited private or public postsecondary institution, military service, or employment.

Approved by the Arizona State Board for
Vocational Technological Education

April 27, 1992

PERFORMANCE STANDARDS *PROCEDURES* SURVEY

Background

Beginning with the FY 1992-93 school year, districts/schools were to complete Performance Standards reports, due to ADE/VTE in September 1993. District-appointed Local Evaluation Coordinators were to submit local program improvement plans intended to address any weaknesses indicated by their 1992-93 performance standards data. ADE/VTE personnel planned to utilize aggregated Performance Standards data to assess VTE program outcomes statewide and target areas for program improvement.

The current research project was commissioned to examine local procedures used in preparing Performance Standards reports, with the ultimate goal to assess issues of reliability and validity as they pertain to the state's database. These issues are relevant to the utilization of Performance Standards data for purposes of program evaluation.

As of November 1994, ADE/VTE personnel had documented a number of problems in district-reported Performance Standards data. According to ADE documentation provided to local vocational directors at a meeting held on November 13, 1993, problems included the following:

Regarding the reporting of basic and advanced academic skills—

Some courses and/or programs were not included in the assessment process.

The same data were reported for the attainment of both basic and advanced academic skills.

Assessment procedures only pertained to one term of the academic year.

Information was not reported for basic and/or advanced skills.

Regarding the reporting of occupational competencies—

Same problems as for academic skills, plus...

Data on competency attainment were based on a course grade rather than on the actual measurement and recording of competencies.

Additionally, ADE noted that many districts did not provide appropriate statements of assurance and local improvement plans. Some districts also did not measure/report the performance of special needs students or have the required representation on the local evaluation team (i.e., the group charged with implementing the Performance Standards evaluation).

Drawing upon the above information, ADE/VTE personnel expertise, and the ADE *Teacher's Guide* (1992 and 1993 versions), Morrison Institute researchers designed a survey to assess local procedures in conducting Performance Standards evaluations. The

survey was comprised of seven sections and was intended to assess local procedures with respect to measuring: basic and advanced skills (Section I), occupational competencies (Section II), continued enrollment (Section III), and the performance of special needs students (Section IV). Section V requested information pertinent to preparing and conducting the local evaluation, including information about the local evaluation team, the amount of training and inservice received by those implementing the evaluation, and procedures pertaining to the filing of a "minority report." Section VI was designed as a user evaluation of the state's Performance Standards system. All questions in Sections I through VII were multiple choice to facilitate completion of the survey. Most items contained an "Other" response to allow for open-ended responses. Finally, Section VII allowed for respondents to offer additional comments regarding any aspect of the survey or Performance Standards system.

Sampling and Methods

A cross-sectional sampling design was selected to represent programs statewide in each of the six primary occupational areas (Agriculture, Business, Health Occupations, Marketing, Occupational Home Economics, and Trade and Industry). A sample size of 30 per program area was selected as appropriate for this type of exploratory study.[6] Occupational area samples were stratified by program type. For example, within the Agriculture area, the sample was comprised of programs representing Agriculture Business/Management, Agriculture Mechanics, Horticulture, and Renewable Natural Resources in proportion to their representation in the total number of state-approved Agriculture programs.

An additional parameter for sample selection was that no one local evaluation coordinator (a district representative) would receive more than two surveys. In the cases where two surveys were sent to the same local evaluation coordinator, efforts were made to target the surveys to two different schools/programs in the district. This sampling parameter limited the number of health occupations programs that could be surveyed without duplicating districts/schools. A total of 14 unique districts and schools were identified in the Health Occupations area; all were surveyed.

In sum, the final sample was comprised of 30 Agriculture Education programs, 30 Business Education programs, 14 Health Occupations Education programs, 30 Marketing Education programs, 30 Occupational Home Economics Education programs, and 30 Trade and Industry programs for a total of 164 programs. These 164 programs were distributed across all 15 Arizona counties in 92 districts and 108 schools. This sample was the most inclusive cross-sectional sample possible, given the two-survey per district limit imposed by researchers.

Surveys were customized by printing the district, school, occupational area, and program area targeted for study on the survey. Surveys asked for the name and position of the person completing the survey and their telephone number for purposes of follow-up. The confidentiality of site-specific responses was guaranteed.

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[6] Following Isaac, S. and Michael, W.B. (1987). *Handbook in Research and Evaluation*. San Diego, CA: EdITS Publishers.

The survey was distributed by mail in February 1994 with a one-month turnaround time. Extensive follow-up was conducted during April and May through repeated mailings and telephone calls. Follow-up was conducted both to obtain responses as well as to clarify information on returned surveys.

Survey Response Rates

A total of 77 of the 92 districts surveyed responded for a district response rate of 84 percent. Ninety-two of the 108 schools surveyed responded for a school response rate of 85 percent. Several district/school responses indicated that the school no longer offered the program targeted on the survey. These responses were counted in the district/school response rate, but surveys were considered unusable. Other unusable surveys were those that were returned with a majority of items left blank. Response rates by occupational area, and the total number of surveys used in the final analysis, are provided in Table 2-1.

Table 2.1

VTE Performance Standards Survey Response Rates by Occupational Area

Occupational Area	# Programs Surveyed	# Responses	Overall Response Rate	# Usable Surveys	Percent Usable Responses
Agriculture	30	25	83.3%	24	80.0%
Business	30	25	83.3%	25	83.3%
Health Occupations	14	12	85.7%	12	85.7%
Marketing	30	26	86.7%	24	80.0%
Occ. Home Economics	30	25	83.3%	23	76.7%
Trade & Industry	30	23	76.7%	20	66.7%
Totals	**164**	**136**	**82.9%**	**128**	**78.0%**

Survey Results

All results reported in this section reflect the total number of usable surveys analyzed (N = 128). Key findings are summarized by section. Specific results for each question are contained in Appendix D. Results by occupational area are available as separate documents.

Section I: Measuring Basic and Advanced Academic Skills

Morrison Institute's Performance Standards survey included nine questions each about the measurement of basic and advanced academic skills. Questions were designed to determine what academic skills are assessed and how they are assessed in order to allow researchers to determine whether or not methods are "reasonable and reliable" as per ADE directives.

Four questions pertained to the identification of basic and advanced academic skills. Survey recipients were first asked to indicate whether they used the same or different formal procedures to identify academic skills in all courses in their program. A majority of the 128 respondents indicated that they identified both basic and advanced academic skills in ***all*** courses using the *same* procedure. A total of 100 respondents (78 percent) indicated uniformity in procedures to identify basic skills; 96 (75 percent) indicated this uniformity to identify advanced skills. Conversely, nearly one-fourth of all respondents for both basic and advanced academic skills said they used different procedures or did not formally identify academic skills.

Survey recipients then were asked to indicate ***the procedure*** used to identify basic academic skills related to the occupational program in question. A variety of procedures were indicated, including the use of teacher judgment, the analysis of Arizona's *Essential Skills* curriculum frameworks, the analysis of tests (commercial and district-developed), and the analysis of either the VTE or academic curriculum. The most frequent response indicated that LEAs rely on teacher judgment to identify the basic and advanced academic skills associated with VTE courses. Thirty-two percent of the respondents indicated teacher judgment is used to identify basic skills; thirty-four percent rely on teacher judgment to identify advanced academic skills. Less than one in five districts indicate using the *Essential Skills* frameworks to identify academic competencies related to their courses.

Asked to indicate what specific academic skills are identified and for which students are assessed, most respondents said that arithmetic/mathematical skills are identified and assessed (87 percent for basic; 84 percent for advanced) as well as communication skills, including reading and writing (86 percent for basic; 84 percent for advanced). Approximately half of all respondents indicated assessing both basic and advanced science skills. Four percent of the respondents indicated assessing both basic and advanced "language skills."

Finally, survey respondents were asked to indicate ***who*** is primarily involved in the process to identify the specific basic academic skills associated with the courses in their particular program. Over half of the respondents noted that individual VTE course instructors are primarily involved in the process to identify both basic and advanced academic skills. Twelve percent indicated that exclusively VTE staff (collectively) are involved in the identification of academic skills. In very few cases (less than ten percent) are academic staff involved in identifying academic skills relevant to VTE courses.

The remaining five questions in Section I examined procedures to assess students' academic skills. Respondents first were asked whether the same assessment methods are used in *every* course. Ninety percent of the respondents said "yes" in relation to assessing basic skills; 88 percent said yes in relation to advanced skills. Respondents then were asked whether a test is used in every course. Over ninety percent indicated that tests are used. Respondents were asked to indicate the kind of test used. Over fifty percent indicated the use of a teacher-developed test to assess both basic and advanced skills. A variety of other test instruments account for the remaining responses. Of these other test instruments, 13 percent of the respondents indicate using the Arizona Student Assessment Program (ASAP) instruments to examine basic skills; 11 percent said they use ASAP to assess advanced academic skills.

If respondents indicated using a test to measure academic gains, they were asked whether or not *all* students in *every* course are pre-post tested. Eighty-five percent of the 128 respondents said they pre-posttest to assess basic skills; 82 percent said pre-posttesting is used to assess advanced academic skills.

If respondents indicated pre-posttesting, they also were asked to define "gain" relative to a difference in pretest and posttest scores. Seventy-one people responded to this item with respect to both basic and academic skills. A majority of respondents indicated that a one percent or one answer difference was considered as a gain. Several people indicated that the same score on the pretest and posttest was considered a gain, while several others indicated they were still "working on" a definition of gain. Only six of the 71 respondents indicated that students must score at least five percent higher on the posttest than on the pretest as evidence of a gain in basic skills. These six respondents represented five of six occupational areas (all except Occupational Home Economics).

Finally, respondents were asked to note other methods, besides tests, used to determine academic gain and to define "gain" with respect to other measures. For both basic and advanced academic skills, thirty-one respondents indicated using a measure of gain other than pre-posttest scores. A majority of these respondents indicated the use of formal and informal teacher observations of student work (e.g., project completion, lab performance, unit quizzes, portfolios). Sample definitions of gain are as follows:

- Gain is defined through problems, projects, and lab work.
- [Gain is the] mastery of skills NOT passed on the pretest.
- Gain is defined as improvement or acquisition.
- [Gain is] successfully completing courses within the program.
- Gain is defined through completion of class projects.
- Gain is the ability of the student to demonstrate an elevated usage of academic skills needed to succeed in the occupational area.

One respondent was more specific regarding teacher assessments, writing the following:

> "A list of *Essential Skills* is used to evaluate students before and after each course. All skills that are attained are checked off and academic gain is determined by how many new skills can be checked off at the end of a course that were not previously attained. Gain is defined as competence and understanding of a specific skill."

Only one respondent indicated measuring gain in a different manner than through tests or teacher observations/assessments of student work. In this case, gain is determined on the basis of a student's overall grade point average (i.e., "GPA progress").

Section II: Measuring Occupational Competency

The Performance Standards survey included 12 questions about the measurement of occupational competencies. Questions were designed pertaining to the identification of occupational competencies, the measurement of these competencies, and definitions relevant to course and program completion.

Survey respondents were asked to indicate how occupational competencies/tasks were identified for their particular program. Most respondents (111, or 87 percent) said competencies/tasks were identified for ***all*** courses using the *same* procedure. The remainder indicated the use of different procedures or said that competencies are not formally identified.

Survey recipients then were asked to indicate ***the procedure*** used to identify occupational competencies/tasks for the courses in their particular program. Over half of the 128 respondents (51 percent) indicated using ADE-validated competency/task lists. An additional 19 percent said that the VTE program curriculum was analyzed, while another 17 percent said that teacher judgement was used. Other responses indicated a combination of approaches.

Respondents also were asked to indicate ***who*** was primarily involved in the process to identify specific occupational competencies and tasks associated with the courses in their particular program. Fifty-eight respondents (45 percent) said the VTE course instructor(s) are primarily involved. Others indicated that no personnel were involved, per se, but rather that they relied on ADE competency/task lists. Others involved included local advisory councils (12 percent), school/district VTE teams (5 percent), and combinations of the above (9 percent). Only four respondents indicated the *specific* use of local/state/federal business and industry representatives as those primarily involved in the process to identify occupational competencies.

Regarding student assessment methods, survey respondents were asked whether or not they used similar methods in *every* course to assess student attainment of occupational competencies and tasks. Eighty-eight percent of the respondents indicated "yes," similar methods are used.

Also regarding student assessment methods, survey recipients were asked whether or not they used a course-based performance measure of occupational competencies (as, for example, a project or skill demonstration) in *every* course. Again, 88 percent responded in the affirmative. Finally, with respect to student assessment methods, survey respondents were asked to indicate any and all other methods used to determine the attainment of occupational competencies and tasks. Responses varied. Not including nonrespondents:

- 125 (98 percent) said they used teacher observation and judgement of student performance.
- 113 (88 percent) used teacher-developed paper and pencil tests.
- 52 (41 percent) said they used on-the-job supervisor evaluations.
- 47 (37 percent) indicated they used student evaluations.
- 11 (9 percent) indicated they used other methods, such as ADE-developed "pencil and paper" tests.

Section II sought additional information about definitions of VTE "programs" and "courses." A majority of respondents (64 percent) said that their program is comprised of one to three courses, each course being a year in length.

ADE defines a course completer as "a student who is enrolled within the first grading period and remains enrolled through the end of a course" (*Teacher's Guide*, p. 16). Survey respondents were asked to indicate how *they* define a ***course completer***. The most frequent responses are as follows:

- 69 (54 percent) said only students who receive credit for the course.
- 45 (35 percent) said all students enrolled in the first grading period who finish the course. [Note: This is the ADE definition.]
- 11 (9 percent) gave other definitions such as a student who completes 80 percent or more of the competencies.

Regarding the requirements of their program, survey respondents were asked how many courses at a minimum, must a ***program completer*** have successfully passed. Most respondents (81 percent) indicated that a program completer is one who passes one to three (1-3) three courses.

In reference to the requirements of their program, survey respondents were asked whether or not they *required* program completers to obtain applied and occupational experience in the industry for which they are preparing as part of the program. Roughly half of the respondents (52 percent) said "no," participants were ***not*** required to obtain practical experience.

For the 58 respondents (45 percent) who stated that applied/occupational experience ***is*** a program requirement, they were asked the types of applied experiences required. Their responses are as follows:

- 49 (38 percent of the total sample) said school-based work simulation(s).
- 30 (23 percent of the total sample) said clinical experience, paid or unpaid.
- 22 (17 percent of the total sample) indicated cooperative education.
- 6 (5 percent of the total sample) indicated apprenticeship program(s).
- 6 (5 percent of the total sample) indicated other requirements such as a Supervised Occupational Experience (SOE) program

Section III: Measuring Continued Enrollment

Survey recipients were asked five questions about enrollment and efforts to keep students in school. Survey recipients first were asked to identify the definition of "course enrollment" for their particular program. Of the 128 respondents:

- 60 (47 percent) defined course enrollment as all students enrolled in the course throughout the term.
- 34 (27 percent) defined course enrollment as all students who register for a course within the first grading period.
- 30 (23 percent) defined course enrollment as all students who successfully complete course requirements.
- 3 (2 percent) described course enrollment as "most of the students who register within the first grading period and stay the whole year are course completers."
- 1 (>1 percent) did not respond.

Survey respondents also were asked whether their school has a management information system (MIS) that allows them to track students who leave the course or program. Approximately half (49 percent) said that they do have an MIS system; the other half (49 percent) said they do not have an MIS system. Two percent did not respond.

If respondents indicated that they do *not* have an MIS system, they were asked how they track students. Responses invariably mentioned that teachers are responsible for tracking students, with records compared against counselor or other school files. Follow-up studies are typically conducted by program staff through mail and telephone contacts.

Several respondents said they were unsure of how students were tracked; still others wrote that tracking was conducted at the district level. In one case, a university conducts follow-up; in another, an alumni association conducts the follow-up studies. One respondent said follow-up is by "word-of-mouth" and student visits. Another admitted that students are not tracked at all. Invariably, difficulties of tracking students "the old-fashioned way by paper and pencil" were related to the size of the school and student body.

Survey respondents were asked the degree of emphasis placed on providing teachers with inservice or training that addresses *reasons why students drop out of school.* Of the 128 respondents, 123 (96 percent) said that this was a moderate to low priority with some, few, or no activities. Respondents also were asked if the emphasis (from Question 3.3) is appropriate. Sixty-four respondents believed the emphasis to be appropriate; 63 respondents believed the emphasis was ***not*** appropriate. (One did not respond.)

Finally, survey recipients were asked how effective they considered their program to be in keeping students enrolled *in school.* Half (50 percent) believed their program to be "very" effective; the remaining half (50 percent) believed their program to be only "somewhat" or "not very" effective.

Section IV: Procedures and Attitudes Related to Special Needs Students

The Performance Standards evaluations require that VTE programs separately report on special needs students (i.e., those requiring an Individualized Vocational Education Plan, or IVEP). Separate reports are required by course and program for each standard measured. Eight questions on the survey related to procedures and attitudes applicable to educating and assessing special needs students.

First, survey recipients were asked the extent to which they believed that special populations were represented in their program. Of the 128 respondents:

- 92 (72 percent) believed that special needs students are proportionately represented in their program.
- 31 (24 percent) indicated that special needs students are overrepresented; that there are too many in the program.
- 5 (4 percent) said special needs students are underrepresented; that there are too few in the program.

Respondents were asked to indicate the extent to which instructors in their programs were involved in *developing* IVEPs. Eighty-two respondents (64 percent) said instructors were "often" involved; 43 (37 percent) said instructors were "sometimes" or "rarely" involved. Survey respondents also were asked the extent to which IVEPs were *used* by instructors in their particular program. Thirty-eight percent said that IVEPs were "often" used; 61 percent indicated they were "sometimes" or "rarely" used.

Additionally, survey recipients were asked the extent to which instructors in their program coordinated instruction with other instructors working with IVEP students. Twenty-six respondents (20 percent) said there was "frequent" coordination; 98 (77 percent) said there was "some" or "infrequent" coordination.

According to the ADE's Performance Standards, IVEP students are expected to perform as well as regular students. Survey respondents were asked, in their opinion, how many instructors in their program believed that this is a realistic expectation. Of the 128 respondents, 22 (17 percent) said "all" instructors believed this is a realistic expectation. An additional one-third of the respondents (34 percent) said "most" teachers believed this is realistic. Fifty-six respondents (44 percent) indicated that a majority of their teachers ***do not*** believe that it is realistic for IVEP students to perform as well as regular students.

Regarding the assessment of IVEP students, respondents were asked if *basic* and *advanced* academic skills for IVEP students were measured in the same way as for regular students. Most respondents (87 percent regarding basic skills; 88 percent regarding advanced skills) said that IVEP students were assessed in the same way.

Similarly, respondents were asked if the attainment of *occupational competency* for IVEP students was measured in the same way as for regular students. Over 100 respondents (85 percent) said that IVEP and regular students were assessed in the same way.

For respondents who responded "No" to any of the assessment questions, they were asked how they modified assessment methods for IVEP students. Some responses simply indicated that assessment methods were "modified as appropriate," sometimes based on the input of a special education teacher. Specific modifications included the following:

- IVEP students are given more time to acquire the same skills/competencies, and/or allowed more time to complete tests/tasks.
- Fewer competencies are required; some are "deleted."
- Job skill requirements are modified.
- A lower standard of success is used for IVEP students (e.g., 50% or 70% attainment of skill mastery versus 80% for regular students).
- IVEP students may be allowed to have assistance in understanding/taking the test (e.g., assisted with the reading of questions).
- "More individual observation by the teacher is performed."

Section V: Preparing and Conducting the Local Evaluation

In this section of the survey, ten questions were asked to obtain general information about the people and procedures used to complete Performance Standards evaluations. Survey recipients were asked if the district's VTE director acted as the local evaluation coordinator. A majority (110 or 86 percent) responded "yes" to this question.

Regarding student assessment and Performance Standards data collection, respondents were asked to indicate any and all types of training and support that their district provided for VTE teachers. Of the 128 respondents:

- 93 (73 percent) identified district inservice training.
- 74 (58 percent) indicated district support such as administrative and clerical assistance.
- 39 (30 percent) indicated state-sponsored training.
- 35 (27 percent) identified ADE staff assistance.
- 7 (5 percent) did not respond.

Survey respondents also were asked how often evaluation information was shared with the teachers for their particular program. A little over half (55 percent) indicated that information was regularly shared. The remaining 45 percent said information was shared only occasionally, seldom, or never.

Survey respondents were asked if there was a local evaluation team for their program. Over 100 respondents (112 or 88 percent) indicated "yes." Recipients also were asked how many members were on the local evaluation team for their program. Of the 112 respondents who indicated they did have a team, team membership ranged from a low of 2 to a high of 20. Reportedly, the "average team" has 6 members. Asked about the composition of the evaluation teams (as per ADE requirements), all teams had a teacher

representative, 93 percent had a business and industry representative, and 83 percent had a representative for the special needs population.

Asked if the local evaluation team had received training for its role in conducting Performance Standards evaluations, 90 respondents (70 percent) said "yes." The remaining respondents either said "no" or were unsure (or did not respond). Additionally, survey recipients were asked to briefly describe the nature of the training provided. Responses varied. Of the 90 respondents who indicated that they had received training, 69 described the nature of the training received. Of these 69 respondents:

- Forty-two respondent (61 percent) indicated that training was "limited" ranging from brief (e.g., 30 minutes or less) "overview" explanations to one-hour presentations. One respondent described such a meeting as "a formality."
- Fifteen respondents (22 percent) indicated training sessions between two and five hours.
- Five respondents (7 percent) indicated two days of training provided through a Rural Technical Assistance Project.
- Two additional respondents (3 percent) reported receiving three days of inservice with their local director.
- Five respondents (7 percent) indicated "ongoing" training provided throughout the year.

Regarding various roles of the local evaluation team, respondents were asked if, in the case that Performance Standards were *not* met, whether the team played a key role in developing a local improvement plan. Eighty-eight respondents (69 percent) said that the team *did*, in fact, play a key role. Survey respondents also were asked if it was clearly understood that team members who disagreed with the district report could file a minority report. Over 100 (103 or 80 percent) said that this *was* clearly understood; furthermore, nine respondents (7 percent) indicated filing a minority report.

Section VI: User Evaluation of the Performance Standards System

This section of the survey was designed to determine local VTE personnel opinions about the usefulness, accuracy, and importance of Arizona's Performance Standards and Measures system. For each of sixteen items, survey recipients were asked to indicate their agreement or disagreement with an item on a four-point scale. Based on the distribution of responses across the scale, mean values were calculated for each item. An overall mean was also calculated (i.e., a mean of the 16 item means). Items and mean values are provided in Table 2-2 on the following page. Frequency distributions for each item are provided in Appendix D.

Table 2.2

User Evaluation of Performance Standards System (N = 128)

Item	Mean Rating *
6.1 The *Performance Standards* requiring that students demonstrate gains in basic and advanced academic skills are important for evaluating VTE programs in my school/district.	2.85
6.2 My school/district can accurately determine whether each student in a VTE course makes achievement gains in basic and advanced academic skills during a school year.	2.88
6.3 The *Performance Standards* requiring that students attain occupational competency are important for evaluating VTE programs in my school/district.	3.15
6.4 My school/district can accurately determine whether *course completers* attain 80% of the occupational competencies for each course.	3.10
6.5 My school/district can accurately determine whether *program completers* attain 80% the occupational competencies for each program.	3.05
6.6 The *Performance Standard* requiring that students stay enrolled in or graduate from school is important for evaluating VTE programs in my school/district.	2.62
6.7 My school/district can accurately determine whether 90% of the students in each VTE course stay enrolled in or complete high school.	3.19
6.8 Separately tracking regular and IVEP students is important for evaluating VTE programs in my school/district.	2.52
6.9 My school/district can accurately identify the number of *both* regular and IVEP students in each VTE program.	3.27
6.10 Local evaluation teams play an important role in my school/district's VTE program.	2.95
6.11 My district would have a local evaluation team for each VTE program even if there were no state involvement in the programs.	2.61
6.12 It is reasonable to expect school district to have a local evaluation team with a teacher representative, a business and industry representative, and special populations representative for each VTE program.	2.88
6.13 It is reasonable to expect school districts to maintain and submit the *Performance Standards* reports required by federal legislation and ADE.	2.64
6.14 Once the "bugs" are worked out, the Arizona VTE standards will be useful for making important improvements in my school/district VTE programs.	2.73
6.15 The costs (i.e., time, money, etc.) of keeping the state-required student performance records and reporting them to ADE will be justified by the benefits to my school/district.	2.20
6.16 I would recommend to school districts in other states that they use a VTE performance standards system like Arizona's.	1.85

* For purposes of interpretation, the overall mean value for all 16 items was computed (2.78.) Items with a mean score below 2.78 indicate relative disagreement based on the overall mean. These items are shaded in the table.

4 = Strongly Agree
3 = Agree
2 = Disagree
1 = Strongly Disagree

Section VII: Additional Comments

Finally, Section VII of the survey requested additional comments regarding any aspect of the Performance Standards system. Most respondents did not write additional comments. Those who did write comments indicated a need for more time to do Performance Standards record keeping or reporting, and/or dissatisfaction with the Performance Standards system. Comments are reproduced verbatim (except for minor editing for spelling, grammar, and clarity) in Appendix D. This section is illustrative of the comments provided.

Time-Related Comments

- Instructional time lost is more valuable than the performance standards.
- Vocational teachers need release time on a weekly or monthly basis to keep up on the record keeping.
- As teachers, we need three things: 1. More time 2. More time 3. More time
- Teachers need time to do record keeping. It would not be unreasonable for each vocational teacher to have one period/day to do record keeping.
- The ADE Performance standards reporting process is cumbersome and very time consuming, both on the part of the course/program instructor and the local evaluation coordinator. It must be made less cumbersome.

Criticism

- The *Performance Standards and Measures* instrument we are currently using is one of the worst instruments I have had to work with.
- The current Performance Standards measurement are a very poor way to evaluate the competency attainment of individual students. This form can be made to say what the instructor wishes it to say! I think this is a very poor evaluation tool and it should be restructured. My local evaluation team members also feel that this system is worthless.

DISCUSSION

The Performance Standards Procedures survey was designed to examine LEA procedures used in gathering and reporting Performance Standards data. Analyses of these procedures allows one to draw some conclusions regarding the reliability and validity of Performance Standards data.

Measuring Basic and Advanced Academic Skills

Regarding Measure 1 (Standards 1.1 and 1.2), the results of the Performance Standards Procedures survey reveal that there is variation *among* local districts and schools regarding the identification and assessment of basic and advanced academic skills. Additionally, there is some variation *among* programs at the same district/school in procedures used to identify and assess academic skills.

Although a majority of sites indicate using a uniform procedure to identify both basic and academic skills in VTE courses and programs, the procedure most often used is "teacher judgment." Even if all teachers are instructed to identify and assess academic skills in a similar way, the process is subject to personal variation and bias. There is no uniform process for identifying academic skills in VTE courses.

Additionally, although a majority of sites indicate using a uniform procedure to assess both basic and academic skills in VTE courses and programs, the procedure most often cited is "teacher-developed tests." Again, even if teachers were equally competent in constructing good assessment instruments, the process to assess students' academic gains is largely subjective.

Determinations of academic gain are made largely on the basis of comparing students' pretest performance with posttest performance. However, definitions of what constitutes "gain" vary among and between districts and programs. Most districts report a one percent or one-answer pre-posttest difference in scores. Such a difference is statistically insignificant and, most likely, practically insignificant as well. Very few districts/programs reported more stringent measures of gain (e.g., more than a five percent pre-posttest difference in scores). Where supplemental measures of "gain" or mastery are used, respondents most frequently report the use of teacher observations and judgment of student work.

In sum, the state's database on VTE students' academic performance consists largely of teacher-reported perceptions of student gains on teacher-developed tests that measure teacher-identified skills, without shared definitions of what constitutes "gain." This, of course, is consistent with common practice in the schools in most subject areas, but it does ***not*** reflect the more objective standards that are explicit or implicit in the VTE Performance Standards.

Measuring Occupational Competency

Regarding Measure 2 (Standards 2.1 and 2.2), the results of the Performance Standards Procedures survey reveal that there is variation *among* local districts and schools regarding the identification and assessment of occupational competencies. Additionally, there is some variation *among* programs at the same district/school in procedures used to identify and assess competencies.

Based on the survey results, over half of all respondents indicated using ADE-validated competency lists in order to identify course and program-related competencies. However, the determination of competencies to be measured from these lists is largely a matter of instructor discretion.

In determining the numbers and percentages of "course completers"—data necessary for reporting on the attainment of occupational competencies for Measure 2—districts vary in their interpretations of who is to be considered a "course completer." Only 35 percent of the respondents indicated using ADE's definition of a course completer, as provided in the *Teacher's Guide* (although some respondents used this definition in combination with other definitions).

There is variability in who constitutes a "program completer." Given the average program of three courses over a three-year period, and the most prevalent definition of a course completer as one who earns credit, a VTE program completer can be a student who earns credit in three related VTE courses. Coupled with the fact that a majority of programs (52 percent) indicated that program completers ***are not*** required to obtain applied and occupational experience in the industry for which they are preparing, the degree to which bona fide occupational skills are attained through program completion is subject to question.

Survey reporting trends suggest that the state's database on VTE students' attainment of occupational competencies consists largely of teacher-reported perceptions of student performance on teacher-determined competencies taken from ADE-validated task lists, where definitions of course and program completers are subject to variation across programs and schools.

Measuring Continued Enrollment

Given the ADE/VTE definition of a "course completer" as one who enrolls during the first grading period and remains enrolled through the end of the course, it seems reasonable to assume that course enrollment is similarly defined in terms of students enrolling in a course within the first grading period. Twenty-seven percent of the respondents used this definition of course enrollment. Others considered course enrollment only in terms of students who were in a course the entire term or who completed course requirements. The tendency of some districts to exclude students who might enroll during the first grading period and then drop the course means that districts' reporting of course enrollments are not equivalent.

For Standard 3.1, the ADE *Teacher's Guide* directs some attention towards inservice and training to staff to support keeping students in school. A total of 96 percent of the survey respondents said such activities were of moderate to low priority. Nearly half of the respondents (49 percent) were dissatisfied with the emphasis (or lack thereof) placed on keeping students in school, and half believed their programs to be only somewhat or not very effective in maintaining student enrollment in school.

Coupled with these findings, nearly half of the respondents (49 percent) do not have a management information system (MIS) to assist them in tracking students. Tracking and follow-up methods vary considerably from district to district, with at least several respondents indicating that student tracking is ***not*** conducted or conducted, at best, informally (e.g., by "word-of-mouth").

Regarding Special Needs (i.e., IVEP) Students

Results from the Performance Standards Procedures survey suggests that three out of every four program directors believe that special needs students are proportionately represented in their programs. Survey findings suggest that many VTE instructors are *often involved* (64 percent) in developing IVEPS, but *use* them often only 38 percent of the time. Additionally, only 20 percent of instructors are believed to use IVEPs in frequent coordination with other instructors working with IVEP students.

One interesting finding is that nearly half of the respondents (44 percent) indicated that a majority of VTE program instructors ***do not*** believe that IVEP students can perform as well as regular students, and yet most respondents (85-88 percent) said that IVEP students are assessed on basic and advanced skills and occupational competency attainment *in the same way* as for regular students.

These findings, coupled with earlier results, suggest the following scenario: Many teachers hold the belief that IVEP students can not perform equally as well as regular students. They assess teacher-identified skills/competencies using teacher-developed tests/measures *without* altering assessment methods for IVEP students. Based on research correlating teacher expectations with student performance, the implications for IVEP students in this scenario are not promising.

Of the 12 percent of respondents who indicate modifying methods to the needs of special students, modifications ranged from watered-down curricula and lower standards of performance to providing additional time and assistance in mastering skills and competencies.

Other Procedures Related to the Conduct of Performance Standards Evaluations

In most cases (86 percent), the district's VTE director acts as the local evaluation coordinator. In the remaining cases, respondents indicated other teachers or administrators are charged with this task. Most respondents, too, have the ADE-required local evaluation teams, but not all teams have a business and industry representative or a special populations representative, as per ADE directives.

Respondents indicated that most VTE faculty were provided with district or state training to some extent with respect to conducting the Performance Standards local evaluation, but over half (55 percent) said that teachers never or only occasionally were provided with information obtained as a result of the evaluation.

Some 30 percent of all evaluation teams reflected in this survey either did ***not*** receive (or did not report receiving) training regarding their role in conducting the Performance Standards evaluation. Moreover, of the teams that were provided training, "training" consisted largely of brief lecture-type meetings. Only ten percent of respondents with local evaluation teams reported multiple-day or ongoing training. Nevertheless, most respondents (69 percent) felt that their teams understood their role in developing a local improvement plan and their right to submit a minority report.

User Evaluation of the Performance Standards System

Overall, the user evaluation of the Performance Standards system was constructed to examine users' perceptions of its usefulness, accuracy and importance. Data were analyzed by clusters of items and items pertaining to specific Performance Standards and procedures.

Clustered Items

Items 6.1, 6.3, 6.6, and 6.8 address the importance of Performance Standards data. Items 6.2, 6.4, 6.5, 6.7 and 6.9 refer to the ability to collect and report accurate data. Items 6.10-6.12 examine users' opinions of the importance and reasonableness of having a local evaluation team. Finally, the last three items (6.13-6.16) were designed to assess user opinions of the overall usefulness of Performance Standards.[7]

Analyzing mean scores for clusters of items, users agree that they can accurately report data (mean = 3.10). Based on the overall mean of 2.78, there is borderline agreement that data are important (mean = 2.79). Looking at the individual items that comprise this cluster, however, users agree that occupational competency data are important as well as academic achievement data, but disagree as to the value of *school* enrollment data and the separate reporting of data for IVEP students.

Overall, users agree with the importance and reasonableness of expectations related to having local evaluation teams (mean = 2.81), although this mean score is close to the overall mean of 2.78.

Finally, users disagree that the Performance Standards system, as currently constructed, is useful (mean = 2.26).

Items Related to Specific Standards/Procedures

Items 6.1 and 6.2 relate to the importance and accuracy of gathering student academic achievement information. Users agreed that the Performance Standards related to academic achievement are important (mean = 2.85) and that they can accurately determine whether or not students actually gain academic skills, both basic and advanced (mean = 2.88).

Items 6.3 through 6.5 relate to the importance and accuracy of gathering information on the attainment of occupational competencies. Users agreed that this information is important (mean = 3.15) and that they can accurately whether course and program completers attain 80 percent of the competencies related to their programs (mean = 3.10 regarding course completers; 3.05 regarding program completers).

Items 6.6 and 6.7 examined the importance and accuracy of continued enrollment data. Users disagreed that the information is important (mean = 2.62), but agreed that they can report this information accurately (mean = 3.19).

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[7] Items 6.13 was not included in "cluster" analyses.

Items 6.8 and 6.9 asked for users' opinions about the importance and accuracy of information related to IVEP students. Users tend to disagree that separately tracking IVEP students for VTE program evaluation is important (mean = 2.52). However, users felt confident that they are able to accurately determine the number of IVEP students in their programs (mean = 3.27).

Items 6.10 through 6.12 related to the value of having a local evaluation team. As noted in the cluster analyses, users tend to agree that the teams play an important role in the district (mean = 2.95) and that it is reasonable to expect teams to have teacher, business/industry, and special needs populations representatives (mean = 2.88). There was lesser agreement on whether the district would have a team if not for the state requirement to do so (mean = 2.61).

The last four items (6.13 - 6.16) asked for users' opinions on the overall worth and usefulness of the Performance Standards system. Users disagreed that the collection of Performance Standards data is reasonable (mean = 2.64) and that the standards will be useful for making program improvements, once the "bugs" are worked out (mean = 2.73).

Users also disagreed that the costs of gathering and reporting data (e.g., in terms of time and money) will be justified by the benefits of the system to their school or district (mean = 2.20). Furthermore, they would ***not*** recommend that other states use a VTE Performance Standards system like Arizona's (mean = 1.85).

PART THREE

IMPROVING PROGRAM QUALITY (THE VTE MODEL) AND PROGRAM ACCOUNTABILITY (PERFORMANCE STANDARDS)

This section examines assumptions that appear to underlie Arizona's implementation of the VTE Model and the Performance Standards. It further discusses issues pertinent to the use of Performance Standards data to evaluate ADE-funded "Model" sites.

An assumption adopted in this report is that the VTE Model represents the state's goal for what a VTE Program should look like. In effect, it is the Arizona Department of Education's vision of a quality vocational technological education program. In parallel fashion, the Performance Standards system is the department's means of measuring what happens to VTE students as a result of VTE education.

A premise that joins these two systems is that ***if*** sites implement a Model program, then their students (having experienced a higher quality program) will perform better than students who do not participate in a "coherent sequence of instruction." Better student performance should be reflected in the Performance Standards outcomes data. That is, "Model sites" should show more gains in students' academic achievement and attainment of occupational competencies. "Model sites" should manifest better rates of continued enrollment and higher numbers of students who continue their education and training or enter the workforce. It seems reasonable to assume that one should be able to assess the VTE Model—representing program quality—through the Performance Standards—representing program accountability.

The above is a portrayal of how program quality and accountability should work in an ideal world. However, the Morrison Institute study of VTE Model implementation and local procedures used to conduct Performance Standards evaluations reveals that practice does not reflect an ideal world.

The assumption that comprehensive (i.e., Levels I, II and III) VTE Model programs have features that significantly differentiate them from non-comprehensive programs does not bear out. Although comprehensive and non-comprehensive programs do manifest some differences, these differences appear to fade out by Level III. And, while ADE-funded "Model sites" meet more of the ADE Model program characteristics than do nonfunded sites, funding appears to distinguish sites primarily in terms of facilities and equipment rather than in the instructional techniques (e.g., applied occupational experiences) that are more likely to have a direct effect on student performance. In sum, the distinctions between "Model" and "non-Model" sites are subtle, at best. To expect differences in student performance between "Model" and "non-Model" sites may not be realistic at this point in time.

Even if one *could* expect to see higher student performance at Model sites, significant differences in student performance could only be meaningfully detected using comparable data. The analysis of local procedures used to gather and report Performance Standards data shows that there is great variance in the ways that sites report on student academic achievement, the attainment of occupational competencies, and continued enrollment. Sites do not share common definitions of terms such as "course completer" or "program completer," nor are special needs students assessed equitably across districts/schools.

Having alluded to difficulties with both the VTE Model implementation and Performance Standards data, the following sections elaborate on the concerns raised as a result of this investigation and offer some recommendations for ADE/VTE consideration.

VTE MODEL IMPLEMENTATION

Data from both implementation studies suggest certain areas in which ADE could direct its efforts in order to refine the Model and further implement it in the schools. Suggestions relate to two different aspects of the Model which can be conceptualized as "Model problems" and "implementation problems."

"Model problems" refer to aspects of the Model itself and of the ADE criteria used to judge "modelness." Several issues were identified. One issue concerns the inclusion of Level I in the sequence of instruction. A second issue concerns the subjectivity of ADE criterion statements used to define program characteristics. Finally, the relevance of certain ADE *Program Characteristics* was called into question.

When "Model problems" are taken as a whole, they imply a need to simplify the Model. This report suggests that the Model can be simplified in terms of its program characteristics. Some characteristics can be eliminated, or combined into "assurances." Other characteristics need better definition. Finally, Level I itself, as well as its relationship to other levels, should be reexamined. These ideas are discussed in more detail in the paragraphs that follow.

A recommendation to eliminate some of the Model program characteristics is prompted by the apparent lack of relevance and validity of certain program characteristics. That is, some characteristics do not adequately differentiate between types of programs (e.g., comprehensive and non-comprehensive); others seem unrealistic. At Level I, characteristics that may be unrealistic include the length of the course, the number of students served, leadership development at this level, and industry realism of the instructional activities, facilities and equipment. At all levels, characteristics that fail to significantly distinguish between programs include those that pertain to administrative support, teacher inservice and facilitation of instruction, and group work by students.

"Shared" characteristics (i.e., those common to all three levels), especially those that do not meaningfully differentiate between programs, might better serve as "assurances" than program characteristics. "Unique" characteristics should be reduced to a core set of essential elements, each with indicators that specify the extent or degree of implementation and reduce subjective judgments.

There are also problems relative to terminology. By way of explanation, the ADE *Program Characteristics Checklist* was used in designing the VTE Model Components Questionnaire in Study 1 and formed the basis of interviews and site visits in Study 2. Questionnaire findings suggest that program characteristics are defined differently by personnel at different sites. These findings were corroborated by site evaluators. Four site evaluators participated in Study 2, and although researchers compared notes and developed shared definitions of certain program characteristics, many of the items were subject to interpretation. In short, the inter-rater reliability of judging program characteristics is subject to question.

Questionable terminology included phrases such as "*all* occupations," "skill development," "ADE-approved" and "simulated business and industry environment." For example, schools using industry-defined curricula that were not produced by ADE may or may not consider their curriculum as "ADE-approved." Additionally, there are degrees of "industry simulation." In the health occupations area, there are classrooms, classrooms with hospital beds and equipment, and simulated doctors' offices. Clearly the latter meets the ADE criterion. The question concerns the presence of *some* equipment and variable definitions of "simulation." In all cases of questionable terminology, the point is that self/external raters are limited to an "all-or-nothing" classification.

Finally, there are issues pertaining to the sequencing of the Model. Data reveal numerous implementation problems related to Level I of the Model—problems which prevented many sites from meeting the criteria for a fully implemented comprehensive program. The question is whether or not this is an "implementation problem" or a problem related to the conceptualization of a "coherent sequence of instruction." This report does not have sufficient information to answer this question, but does suggest that ADE/VTE personnel should reexamine how broad career exploration courses are genuinely integrated with more specific occupational training. The issue of whether or not a Level I course should be a prerequisite should be considered. The requirement for 100 percent of students being served is *not* realistic, given the organization of school sites and mobility of student populations.

Additional data that point to a need to reexamine the sequencing of instruction are found in the LEA Performance Standards Procedures survey. The survey shows that a typical program consists of three courses, each one year in length. If, in fact, these programs represent Model programs, then students are receiving one Level I course, one Level II course and one Level III course. Combined with the information that most programs ***do not*** incorporate Model strands or applied occupational experiences in the industry for which students are preparing, one may question whether a three-course sequence provides sufficient in-depth occupational training to allow a student to enter the workforce prepared.

During some site interviews, personnel raised the concern that implementing comprehensive Model programs forced "thinner" coverage of occupational training. This concern deserves attention. An implementation problem associated with this Model problem concerns the articulation (or lack thereof) of Level I programs with higher level programs. Clearly, if the Model remains with a Level I requirement, the department and local educational agencies need to better articulate Level I with Levels II and III. Problems

associated with poor articulation include a lack of policies between non-unified districts and their feeder schools and/or lack of administrative support within unified districts.

In contrast with "Model problems," "implementation problems" refer to areas in which program personnel appear to have difficulty meeting ADE criteria. Key implementation problems focus on curriculum issues (e.g., the integration of Model strands) and industry-realism in materials, activities, and facilities and equipment.

At a minimum, based on the key findings of this analysis, ADE/VTE personnel should:

- **Simplify the Model.**

  ✓ Eliminate Model program characteristics that fail to distinguish between types of programs.

  ✓ Reconsider and adjust several of the Model program characteristics. Specifically, department personnel should develop indicators or benchmarks for each program characteristic. This would allow for determining the extent of implementation rather than the "all or nothing" judgments currently reflected by the checklist.

  ✓ Consider the amount of instructional time available for VTE courses, given general graduation requirements, and whether requiring three years of broad (Level I) to specific (Level III) VTE training is most appropriate and realistic within that framework.

  ✓ Better articulate Level I with Levels II and III.

- **Increase technical assistance and support to local educational agencies toward implementing the VTE Model, and specifically:**

  ✓ Provide additional training to school-based VTE personnel on the six Model strands and on the ADE Model program characteristics.

  ✓ Expand funding and/or technical assistance to develop appropriate multi-purpose environments that simulate those of business and industry.

The current study of VTE Model implementation revealed that many Arizona school districts were not implementing the VTE model well at Level I, but that they were more successful at implementing it at Levels II and III. By addressing the areas outlined above, it seems likely that ADE can help Arizona school districts to better implement the VTE Model and to further improve their VTE programs.

PERFORMANCE STANDARDS EVALUATIONS

An overall analysis of the survey results on local procedures used to conduct Performance Standards evaluations lends insight on issues related to the validity and reliability of the state's Performance Standards database. These issues are critical for ADE/VTE consideration, given the desire to construct an evaluation system that utilizes Performance Standards data.

In measurement systems, validity concerns the extent to which a test measures what it is supposed to measure. Reliability concerns the consistency, dependability, or stability of the test score. Valid data are those that represent a meaningful measurement of a skill or skills; reliable data are those that can be consistently replicated. Based on the findings of the Morrison Institute survey, the current Performance Standards system does not consistently produce valid or reliable data with respect to: students' academic skills, students' attainment of occupational competencies, and continued enrollment. Additionally, the results of the survey suggest that data reported for IVEP students on the Performance Standards forms are not comparable across districts.

The *system*—the state's database—is comprised primarily of subjective judgments that are based on a variety of local procedures and definitions and are not comparable. Furthermore, based on survey findings, training to use the system has not been adequate.

Users appear supportive of an evaluation system that collects and reports achievement and occupational competency attainment data. However, users do not judge the present system to be worth the costs (time and effort) and they would not recommend it to others seeking to increase state accountability. Several users articulated their concerns that the present system is both too complex and too burdensome.

ADE/VTE personnel should consider implementing a simplified system that collects standardized and authentic data on students' academic and occupational skills. Without at least interval level data (as opposed to the currently-reported nominal and ordinal level perceptual data), meaningful longitudinal studies are virtually impossible to conduct. Taken as a whole, the findings suggest a need to redesign the database that comprises the Performance Standards system and implement complementary programs of technical assistance to assist LEAs to implement the reporting system(s).

In proposing a redesign of the data collection system, lessons can be learned from research in the health field regarding surveillance systems, or systems designed to track the progress of a particular "health event."[8] Surveillance systems are designed to allow practitioners to intervene in the course of the event in order to promote better outcomes. This is the goal of program improvement, as well.

Researchers have defined several components of an effective surveillance system. These are components that need to be in place to maximize the utility of the data for local and state practitioners and policymakers. An effective system—

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[8] This discussion is adapted from the report *Child and Adolescent Injury Surveillance Issues: A Feasibility Study* by Vandegrift, J.A., Donaldson, J. & Wright, A. (1993). Tempe, AZ: Arizona State University, Morrison Institute for Public Policy.

- Reflects a commitment from practitioners and policymakers.
- Incorporates training in its implementation and operation plan.
- Is cost-efficient.
- Uses a simple and uncomplicated format for collecting data.
- Anticipates change and designs data collection/analyses accordingly.
- Allows for longitudinal tracking.
- Constructs a database that allows significant problems to be identified.
- Responds to community-defined issues.
- Collects pertinent information (e.g., demographic and observational data) that may help to explain trends and/or differences in results.
- Bases analyses and interpretation on reliable and standardized data.
- Presents information in a timely fashion.

Arizona's Performance Standards system does embody some elements from the above list. For example, local practitioners appear to have a philosophical commitment for a state data collection system, even though they may not be satisfied with the current process. With respect to the above list, the most serious concerns regarding the Performance Standards system pertain to the complexity of the reporting format, the absence of reliable and standardized data, and the inability to use data meaningfully for longitudinal studies. These concerns should be addressed.

One promising avenue for standardizing the collection of academic achievement data pertains to the Arizona Student Assessment Program (ASAP). During the past year, ADE/VTE personnel, in concert with local vocational directors/teachers and others, began to explore the merger of the state's ASAP system with the VTE accountability system. The department should aggressively pursue this avenue of inquiry and research, as well as examine alternatives to documenting occupational skills attainment, other than via teacher-reported perceptions. Since districts and schools must employ ASAP measures anyway, these measures provide a viable channel for developing a credible reporting system that may serve to reduce burden on local districts.

The following are recommendations related to the Performance Standards system. ADE/VTE should:

- **Redesign the Performance Standards system to enable the collection and reporting of valid and reliable student performance data.**

  - ✓ Continue to pursue the use of ASAP data as a means to document the academic skills of VTE program students.

  - ✓ Explore alternative means to document the attainment of students' occupational competencies, so as to produce comparable data.

  - ✓ Define terms that are essential to accurate data reporting.

  - ✓ Identify existing state and local databases that provide comparable data pertinent to Performance Standards (e.g., the state dropout reporting system).

- **Enhance technical assistance efforts to enable sites to collect and report more valid and reliable data and to use data for program improvement.**

  - ✓ Encourage/provide more training on appropriate curricular and assessment adaptations for special needs students.

  - ✓ Provide increased technical assistance to site personnel to ensure their use of new and existing definitions pertinent to the collection and accurate reporting of Performance Standards data.

  - ✓ Enhance the training of local personnel on the use of existing state and local databases that provide comparable data pertinent to Performance Standards (e.g., the state dropout reporting system).

  - ✓ Encourage local district staff to share evaluation results with VTE staff, and assist local staff to meaningfully use evaluation data for program planning and improvement.

The operational problems associated with both the VTE Model and the Performance Standards should not be construed as a condemnation of either. There are clear federal and state directives, as well as local support, behind the ideals for which they stand. Clarifying and redefining certain aspects of both the Model and the Performance Standards, and enhancing technical assistance to local sites in implementing both, should only serve to improve program quality and accountability.

PROBLEMS AND PROSPECTS RELATED TO USING PERFORMANCE STANDARDS DATA FOR VTE MODEL PROGRAM EVALUATION

Outcomes versus Process

Beyond the specific difficulties related to implementing the VTE Model and the Performance Standards system, there are other, more conceptual, issues that pertain to using Performance Standards data for VTE Model Program evaluation. Although there are many evaluation models and frameworks, this report adopts a framework that views evaluation in terms of either *outcomes* or *process*.

Outcomes evaluations are "summative" in nature. They provide information in terms of student performance (or other outcomes) from which one can make inferences about the effectiveness of an intervention (e.g., curriculum, program, strategy). In contrast, process evaluations are more "formative" in nature, examining how an intervention (e.g., curriculum, program, strategy) works on a day-to-day basis.

Formative evaluations—that examine processes—are most useful in program improvement because they provide direct and specific feedback about the intervention. Summative evaluations—that examine outcomes—are not particularly useful in providing feedback about program processes.

The VTE Model, in essence, is a *process* model intended to promote change in the ways that VTE programs operate. Performance Standards data are clearly designed to obtain *outcome* measures of student performance. The issue in question is the ***extent*** to which outcomes—Performance Standards—can be used to meaningfully evaluate processes—VTE Model programs.

There is no question that Performance Standards data (outcomes) can be used for summative evaluation. However, even the most ideal Performance Standards data would not provide evaluation data on processes related to implementing VTE Model programs.

The observation that the VTE Model encompasses processes is derived on the basis of examining ADE's program characteristics used to define "modelness." Many of these ADE-defined characteristics relate to operational aspects of the programs (e.g., district and local support, teacher inservice). These program operations, depending upon *how* they are implemented and manifested, can contribute to improved student performance. However, their effective or ineffective implementation cannot be detected solely through an outcomes evaluation. As the VTE Model is conceptualized and operationalized, a process evaluation is called for in order to examine program effectiveness. This does *not* mean that an outcomes evaluation is inappropriate; rather, it means that both types of evaluation should be used.

An outcomes evaluation can be used to meaningfully compare programs given the supposition that outcomes result from improved processes (e.g., research has shown that the instructional process of "time on task" is directly correlated with improved student performance; a process such as teacher inservice is not directly correlated). These examples demonstrate that improved processes must be directly aligned with expected outcomes so as to reinforce these outcomes.

As part of Morrison Institute's examination of the Performance Standards and VTE Model, analysts compared Performance Standards (outcomes) with VTE Model Program Characteristics (processes). This side-by-side comparison allows one to examine outcomes and processes at a glance.

Table 3-1 on the following page illustrates the Performance Standards and VTE Model Program Characteristics most aligned with the standards. The table shows that only seven of the Model characteristics (1, 2, 4, 7, 8, 9, and 11) appear to directly support the Performance Standards outcomes. This suggests that an outcomes evaluation alone that is based on Performance Standards is unlikely to yield appropriate data that measures VTE Model Program Characteristics (processes).

Table 3.1

Side-by-Side Comparison of Arizona's Performance Standards and VTE Model Characteristics

Performance Measures and Standards	Related VTE Model Program Characteristics
1.0 Demonstrate competency gains, including student progress, in the achievement of basic and more advanced academic skills. 1.1 All of the course completers who do not possess the identified skills at the beginning of the course/program will demonstrate gains in the achievement of the related basic academic skills associated with the course/program. The student's course/program may be modified through an Individual Vocational Education Plan (IVEP). 1.2 All course completers who do not possess the identified skills at the beginning of the course/program will demonstrate gains in the achievement of the more advanced academic skills associated with the course/program. The student's course/program may be modified through an IVEP.	7.0 Curriculum is competency-based, with each student's attainment of each competency monitoried. 8.0 Curriculum is designed to deliver all ADE-approved academic/occupational competencies in: Level I the draft Level I framework; Level II: at least one cluster; Level III: specific occupation(s). 9.0 Curriculum includes all six of the Model "strands."
2.0 Demonstrate occupational competency attainment. 2.1 Eighty percent (80%) of the course completers will demonstrate attainment of at least eighty (80%) of the competencies/tasks associated with the course. The student's course/program may be modified through an IVEP. 2.2 One hundred percent (100%) of the program completers will demonstrate attainment of at least eighty percent (80%) of the occupational competencies/tasks student's course/program may be modified through an IVEP.	1.0 Instruction provides Level I: exploration/skill development for all occupations associated with the program; Level II: skill development for a cluster; Level III: skill development for specific occupations. 11.0 Instruction provides students with experiences in Level I: a variety of occupational areas; Level II: occupational areas associated with the particular cluster(s); Level III: specific occupation(s). 7.0 Curriculum is competency-based, with each student's attainment of each competency monitoried. 8.0 Curriculum is designed to deliver all ADE-approved academic/occupational competencies in Level I: the draft Level I framework; Level II: at least one cluster; Level III: specific occupation(s).
3.0 Continue attending or complete secondary school. 3.1 Ninety percent (90%) of the students who enroll in a course which is part of an approved vocational technological program will continue attending/ complete secondary school (may be adjusted for "at-risk" students).	2.0 Students served: Level I: 100% in the targeted grade level (7-9); Level II: the targeted grades (9-10) have previously completed a Level I experience and students have the opportunity to participate in more than one cluster, if desired; Level III: In the targeted grade levels (11-12) have previouslyu completed Level I and II experiences. 4.0 The experience provides a coherent sequence of instruction—Level I: required for all vocational technological programs; Level II: each cluster leads to at least one specific Level III experience; Level III: leads to employment and advanced training.
4.0 Placement into additional training or education, military service or employment.	4.0 The experience provides a coherent sequence of instruction with Level III leading to employment and advanced training.

Directions for the Future

As part of Morrison Institute's amended 1993-94 contract with ADE/VTE, analysts indicated that they would provide an evaluation design—including a plan, procedures, and instruments—for future ADE/VTE use in evaluating the effectiveness of VTE Model programs. At this point in time, however, it is clear that issues related to both the VTE Model and the Performance Standards system are complex and require further elaboration and study. Both the Model and the Performance Standards are in need of revisions in order to use them beneficially for an outcomes evaluation.

Furthermore, there is new federal legislation that changes the landscape of educational reform, including vocational technological education, and has relevance to evaluation design. *Goals 2000*, including the National Skills Standards Act of 1994, and the *School-to-Work Opportunities Act of 1994*, as well as sections of the reauthorization of the Elementary and Secondary Education Act of 1965, signify changes in the conduct of programming, student assessment, and program evaluation.[9] Until these changes are fully understood in relation to Arizona's existing systems, specifications for evaluation are premature, at best.

Morrison Institute was awarded a contract with ADE/VTE for 1994-95 to continue its investigation of VTE Model Implementation, Performance Standards, and evaluation issues. In continuing this effort, Morrison Institute proposes to work collaboratively with ADE/VTE and local vocational personnel to create an evaluation design and system that will best serve local and state practitioners and policymakers. One goal of the design effort is to assist the state in defining/creating a valid and reliable state database aligned with federal legislative mandates. A second goal is to ensure that local vocational program personnel can use the system easily, and that local evaluation results are clearly usable and beneficial in program improvement efforts.

In summary, this section suggests that Morrison Institute, in collaboration with state and local VTE personnel:

- **Work toward designing an evaluation system(s) that incorporates recent federal and state policy reforms.**

  ✓ Examine the alignment of the Performance Standards (outcomes) and VTE Model Program Characteristics (processes) with respect to evaluation design.

  ✓ Implement a process evaluation in addition to the Performance Standards outcomes evaluation with respect to VTE Model Program implementation.

[9] Wirt, John G. (1993). *Performance Assessment Systems: Implications for a National System of Skill Standards*. Washington, DC: Training and Employment Program, Employment and Social Services Policy Studies, Center for Policy Research and National Governors' Association.

SUMMARY OF RECOMMENDATIONS

With respect to the Vocational Technological Education Model—

- **Simplify the Model.**
  - ✓ Eliminate Model program characteristics that fail to distinguish between types of programs.
  - ✓ Reconsider and adjust several of the Model program characteristics. Specifically, department personnel should develop indicators or benchmarks for each program characteristic. This would allow for determining the extent of implementation rather than the "all or nothing" judgments currently reflected by the checklist.
  - ✓ Consider the amount of instructional time available for VTE courses, given general graduation requirements, and whether requiring three years of broad (Level I) to specific (Level III) VTE training is most appropriate and realistic within that framework.
  - ✓ Better articulate Level I with Levels II and III.
- **Increase technical assistance and support to local educational agencies toward implementing the VTE Model, and specifically:**
  - ✓ Provide additional training to school-based VTE personnel on the six Model strands and on the ADE Model program characteristics.
  - ✓ Expand funding and/or technical assistance to develop appropriate multi-purpose environments that simulate those of business and industry.

With respect to the Performance Standards system—

- **Redesign the Performance Standards system to enable the collection and reporting of valid and reliable student performance data.**
  - ✓ Continue to pursue the use of ASAP data as a means to document the academic skills of VTE program students.
  - ✓ Explore alternative means to document the attainment of students' occupational competencies, so as to produce comparable data.
  - ✓ Define terms that are essential to accurate data reporting.

- ✓ Identify existing state and local databases that provide comparable data pertinent to Performance Standards (e.g., the state dropout reporting system).

- **Enhance technical assistance efforts to enable sites to collect and report more valid and reliable data and to use data for program improvement.**

  - ✓ Encourage/provide more training on appropriate curricular and assessment adaptations for special needs students.

  - ✓ Provide increased technical assistance to site personnel to ensure their use of new and existing definitions pertinent to the collection and accurate reporting of Performance Standards data.

  - ✓ Enhance the training of local personnel on the use of existing state and local databases that provide comparable data pertinent to Performance Standards (e.g., the state dropout reporting system).

  - ✓ Encourage local district staff to share evaluation results with VTE staff, and assist local staff to meaningfully use evaluation data for program planning and improvement.

With respect to using Performance Standards for evaluating VTE Model Programs—

- **Work toward designing an evaluation system(s) that incorporates recent federal and state policy reforms.**

  - ✓ Examine the alignment of the Performance Standards (outcomes) and VTE Model Program Characteristics (processes) with respect to evaluation design.

  - ✓ Implement a process evaluation in addition to the Performance Standards outcomes evaluation with respect to VTE Model Program implementation.

APPENDICES

APPENDIX A

Model-Funded Sites

Sources of Information for Table A-1

- 1990-91:
  - ✓ "Vocational/Technological Education 1990-91 Model Sites Funding" (02/07/91) [ADE printout]
  - ✓ "Vocational/Technological Education Model Sites Fiscal Year 1991" (08/20/91) [ADE printout]
- 1991-92:
  - ✓ Snyder, L., Johnson, M., DeMuth, L. & Tasker, J. (1992). *Model Site Evaluation FY 1991-92*. Tempe, AZ: Arizona State University, Vocational Education.
- 1992-93:
  - ✓ "1992-93 Model Sites" (01/27/93) [ADE printout]
  - ✓ ADE copies of district funding applications
  - ✓ DeMuth, L. & Tasker, J. (1993). *Final Report: Arizona Vocational/Technological Comprehensive Program Evaluation FY 1993*. Tempe, AZ: Arizona State University, Department of Vocational Education.
- 1993-94:
  - ✓ ADE copies of district funding applications

Table A-1. ADE Model-Funded Sites[a]

District/School Name	1990-91	1991-92	1992-93	1993-94[b]
Agua Fria UHSD				
• Agua Fria Union HS	Level III (Bldg Trades/Constr)			
Amphitheater Unified				
• Cross Middle School			Level I (Life Management)	
• Amphitheater HS	• Level II Core • Level III (Hospitality)			
• Canyon del Oro HS	• Level III (Marketing) • Comprehensive (Levels I-III)	Level II Core		
Benson UHSD				
• Benson Union HS		Level III	• Level II (App. Bio. Systems) • Level III (Drafting)	
Blue Ridge Unified				
• Blue Ridge Junior HS	Level I Exploratory			
• Blue Ridge HS			Level II (Info/Comm Tech.)	• Food Services (Level II) • Graphic/Comm Art (Level III)
Buckeye UHSD				
• Buckeye Union HS		Level I Exploratory	Level III (Biotechnology)	
Camp Verde Unified				
• Camp Verde HS		Level II Core	Level I Exploratory	
Casa Grande Elementary				
• Casa Grande Junior HS		Level I Exploratory		
Cave Creek Unified				
• Desert Arroyo Middle School	Level I Exploratory			

[a] This table documents the history of ADE funding for district implementation of the VTE curriculum model.
[b] Although ADE funded only LEAs proposing to implement a comprehensive (i.e., Level I - III) program in FY 1993-94, applications could be for one level or more as needed to supplement an existing program. Levels funded to complete a comprehensive program are indicated in this column.

Table A-1. ADE Model-Funded Sites—*continued*

District/School Name	1990-91	1991-92	1992-93	1993-94
Colorado City Unified				
• Colorado City HS		Level III	Level III (Marketing)	
• Colorado City Vocational Center			Level I Exploratory	
Coolidge Unified				
• Coolidge HS				Child Care & Guid (Level III)
Deer Valley Unified				
• Deer Valley Middle School		Level I Exploratory		
• Desert Sky Middle School		Level I Exploratory		
• Hillcrest Middle School	Level I Exploratory			
• Barry Goldwater HS				Human Services/Health (Level II)
• Deer Valley HS				Human Services/Health (Level II)
• Deer Valley Vo-Tech	• Level III (Health Occupations) • Level III (Travel/Tourism)	Level III	Level III (Health Occupations)	
Dysart Unified				
• Dysart Junior HS	Level I Exploratory	Level I Exploratory		
• Dysart HS	• Level II Core • Comprehensive (Levels I-III)	Level II Core		
Eloy Elementary District				
•Eloy Junior HS			Level I Exploratory	
Flagstaff Unified				
• Flagstaff Junior HS		Level I Exploratory		
• Coconino HS			Level II (Industrial Tech.)	Electronics (Level III)

Table A-1. ADE Model-Funded Sites—*continued*

District/School Name	1990-91	1991-92	1992-93	1993-94
Flowing Wells Unified				
•Flowing Wells HS		Level I Exploratory	• Level I (Life Management) • Level II (App Bio. Systems) • Level III (Horticulture)	Horticulture (Levels I-III)
Gilbert Unified				
• Gilbert HS	Level III (Business Education)			
Glendale UHSD				
• Apollo HS			Level II (Bus/Management Tech.)	
• Greenway HS			• Level III (Accounting) • Level III (Marketing)	
• Independence HS				Administrative Support (Level I)
• Sunnyslope HS				Administrative Support (Level III)
Globe Unified				
• Globe HS		Level III		
Humboldt Unified				
• Bradshaw Mountain HS		Level III		
Marana Unified				
• Tortolita Junior HS			Level I (Life Management)	
• Marana HS				Food Services (Level III)
• Mountain View HS	Level III (Business Education)			
Maricopa Unified				
• Maricopa HS	Level II Core			

Table A-1. ADE Model-Funded Sites—*continued*

District/School Name	1990-91	1991-92	1992-93	1993-94
Mesa Unified				
• Red Mountain HS	Level II Core		Level III (Administrative Support)	
Mohave UHSD				
• Kingman HS	Level II Core		Level I Exploratory	Video Production (Level III)
Page Unified				
• Page HS			Level II (Bus/Management Tech.)	
Paradise Valley Unified				
• Desert Shadows Middle Sch.	Level I Exploratory			
• Shea Middle School			Level I (Life Management)	
• Sunrise Middle School	Level I Exploratory			
• Vista Verde Middle School			Level I (Life Management)	
• Horizon HS			Level III (Child Care & Guid)	
Pendergast Elementary District				
• Villa de Paz			Level I Exploratory	
Peoria Unified				
• Cactus HS			Level III (Food Prod. & Srvs.)	
• Centennial HS	Level II Core			• Marketing (Level III) • Drafting (Level III)
• Copperwood School			Level I (Life Management)	
• Ironwood HS		Level II Core	Level II (Industrial Tech.)	• Health Careers (Level III) • Acct/Comp Occ (Level III)
• Peoria HS				Health Careers (Level III)

Table A-1. ADE Model-Funded Sites—*continued*

District/School Name	1990-91	1991-92	1992-93	1993-94
Phoenix UHSD				
• Trevor Browne	Level II Core			
• MetroTech	Level III (Fashion Technology)	Level III	Level III (Administrative Support)	
Queen Creek Unified				
• Queen Creek HS	Level II Core		• Level II (App. Bio. Systems) • Level II (Life Management)	• Child Care & Guid (Level III) • AG Bus/Mgt (Level III)
Red Mesa Unified				
• Red Mesa HS			Level II (Info/Comm Tech.)	Graphic/Comm Art (Level I)
Round Valley Unified				
• Round Valley HS				AG Bus/Mgt (Levels I-III)
Santa Cruz UHSD				
•Santa Cruz Union HS			Level I (Exploratory)	
Scottsdale Unified				
• Cocopah Middle School		Level I Exploratory		
• Mohave Middle School	Level I Exploratory			
• Mountainside Middle School			Level I Exploratory	
• Supai Middle School			Level I (Life Management)	
• Coronado HS	Level II Core	Level II Core		
• Scottsdale Vo-Tech	Comprehensive (Levels I-III)			
Show Low Unified				
• Show Low Junior HS			Level I Exploratory	

Table A-1. ADE Model-Funded Sites—*continued*

District/School Name	1990-91	1991-92	1992-93	1993-94
Sierra Vista Unified				
• Buena HS			Level II (Other/Innovative)	
Snowflake Unified				
• Snowflake HS			• Level II (Info/Comm Tech.) • Level II (Life Management)	
St. David Unified				
• St. David HS			Level I Exploratory	
St. Johns Unified				
• St. Johns Middle School	Level I Exploratory			Building Trades (Levels I-III)
Sunnyside Unified				
• Desert View HS			• Level II (Industrial Tech.) • Level III (Drafting)	
• Sunnyside HS		Level III	Level III (Marketing)	Auto Mechanics (Level II)
Superior Unified				
• Roosevelt Junior HS	Level I Exploratory			
Tempe UHSD # 213				
• McClintock HS			Level II (Information Tech.)	
Thatcher Unified				
• Thatcher Middle School			Level I Exploratory	
Tuba City Unified				
• Tuba City Junior HS			Level I (Life Management)	
• Tuba City HS		Level III	Level II (Life Management)	

Table A-1. ADE Model-Funded Sites—*continued*

District/School Name	1990-91	1991-92	1992-93	1993-94
Tucson Unified				
• Carson Middle School		Level I Exploratory		
• Catalina HS	Level III (CAD)	Level III		
• Santa Rita HS		Level II Core		
Valley UHSD				
• Elfrida HS	Level III (AG Bus/Management)	Level III		
Wickenburg Unified				
• Wickenbury HS		Level II Core		
• Vulture Peak School			Level I Exploratory	
Williams Unified				
• Williams HS		Level II Core		
SUMMARY INFORMATION	**31 projects in 20 LEAs were funded including:** 9 Level I (9 schools; 8 LEAs) 9 Level II (9 schools/LEAs) 10 Level III (10 schools; 8 LEAs) 3 Levels I-III (3 schools/LEAs)	**27 projects in 21 LEAs were funded including:** 9 Level I (9 schools/LEAs) 8 Level II (8 schools/LEAs) 10 Level III (10 schools/LEAs) 0 Levels I-III	**48 projects in 32 LEAs were funded including:** 19 Level I (19 schools; 17 LEAs) 16 Level II (16 schools; 14 LEAs) 13 Level III (12 schools; 11 LEAs) 0 Levels I-III	**20 projects in 14 LEAs were funded including:** 2 Level I (2 schools/LEAs)* 3 Level II (4 schools; 3 LEAs)* 12 Level III (10 schools; 8 LEAs)* 3 Levels I-III (3 schools/LEAs) * Levels funded to supplement existing programs; *All* 1993-94 programs are intended to be *comprehensive*.

APPENDIX B

Site Visit Reports and Checklists

Type of Program	Site #	District/School/Occupational Area/Program
Comprehensive-Model-Funded	1	Peoria Unified/Ironwood HS/Health Occupations/Nursing Assistant
	2	Mohave UHSD/Kingman HS/Trade and Industry/Video Production
	3	Buckeye UHSD/Buckeye HS/Agriculture/Business & Management
Comprehensive-Not Model-Funded	4	Fountain Hills Unified/Fountain Hills Jr/Sr High School/Trade and Industry/Radio & TV Production
	5	Miami Unified/Miami HS/Home Economics/Child Development
	6	Whiteriver Unified/Alchesay HS/Business/Administrative Support
Non-Comprehensive/ Model-Funded	7	Deer Valley Unified/Deer Valley VTech/Health Occupations/Nursing Assistant
	8	Flagstaff Unified/Coconino HS/Trade and Industry/Electronics
	9	Valley UHSD/Valley Union HS/Agriculture/Business & Management
Non-Comprehensive/ Not Model-Funded	10	Yuma UHSD/Kofa HS/Trade and Industry/Drafting
	11	Apache Junction Unified/Apache Junction HS/Home Economics/Food Production
	12	Holbrook Unified/Holbrook HS/Business/Administrative Support

Site: **IRONWOOD HIGH SCHOOL, Peoria Unified School District**
Program: **Health Occupations—Nursing Assistant**

SETTING

The Health Occupations area at Ironwood High School was selected to represent a Model-funded site in an urban area. Ironwood is one of four high schools in the Peoria Unified District. Peoria has two Level III programs in Health Occupations, Nursing Assistant and Health Assistant. This report focuses more on the Nursing Assistant program because the researchers interviewed an instructor from it and visited the facility for it.

METHOD

Information about the program was collected primarily by interviewing the Program Director for Health Care Technology at Ironwood High School, who is also one of two instructors in the Nursing Assistant program. The researchers also toured the classroom set aside for the Nursing Assistant program, reviewed documents provided by the program director,and talked briefly with one student and the other teacher from the program. The interview with the program director was audiotaped, and a transcript of the audiotape was used in writing this report.

ORGANIZATION

Level I

Level I is at the seventh and eighth-grade levels, not at the high school level. It is a year-long course that is available to all students in grades 7 and 8, but it is not required. The Level I course is not considered prerequisite to Level II and Level III courses. The Level I course is not articulated with the Level II and III courses, apparently because Level I is in the elementary schools and Levels II and III are in the high schools.

Level II

The name of the Level II course for the Health Occupations is Medical Science. This year-long course meets for an hour a day and is open to students in grades 10-12. The course covers 40 to 50 health occupations, as well as topics such as first aid, pregnancy, sexually transmitted diseases, etc. The Level II Medical Science course is offered at all four high schools in the district. It is a prerequisite for entry into the district's Level III Health Occupations courses.

Level III

Peoria has two Level III courses in the Health Occupations area, Nursing Assistant and Health Assistant. Enrollment is limited to 50 students from the district in each course. Admission to both programs is competitive and requires a written essay, an interview, testing, and letters of reference from teachers. The 50 students in each program are divided into two classes of 25 each. Students are selected from the four high schools for both programs. The two Nursing Assistant classes are held at Ironwood High School and

the two Health Assistant classes meet at Peoria High School. Students from other high schools provide their own transportation to these classes.

The Level III Nursing Assistant and Health Assistant courses meet for two hours daily throughout the school year. Students in these courses must have completed the Level II Medical Science course, but a Level I course is optional for them. The Level III Nursing Assistant course provides skill development for employment as a nursing assistant and leads to employment in this occupation and to advanced training in nursing-related occupations. According to the program director, many of the Nursing Assistant students are employed as nursing assistants or in related positions during the summer and after graduation, and 87 percent of the graduates have gone on to a community college or university. Nearby Glendale Community College offers an Associates Degree in Nursing and the state universities offer Bachelor's and advanced degrees in the nursing field.

Local and District Support

The program director reported that her principal is "100 percent" supportive of the health occupations program, and that the other principals are also very supportive. She indicated that the Peoria superintendent is very vocational oriented. She was less confident about the school board's support for vocational programs, primarily because of limited contact with them. She had recently made a presentation to the school board, and she thought that they reacted quite positively to it.

Advisory Council

The program has an advisory board that consists mainly of administrators from area hospitals. The board meets twice a year, near the beginning and end of the school year. The advisory board provides advice on the skills and knowledge needed by nursing assistant students and on practicum and employment opportunities. The program director feels that the board has an excellent commitment to the program.

CURRICULUM

The curriculum is competency based in the sense that there is a list of competencies and skills for both the Level II Medical Science course and the Level III Nursing Assistant course. Performance on the competencies at both levels is assessed primarily with paper-and-pencil tests, although some are laboratory skills monitored by the instructor. Student progress through the curriculum is tracked through the competencies list and through tests that are entered into the gradebook or onto the computer.

The Level III Nursing Assistant Curriculum was written by the program director, who reported that the skills and competencies are updated yearly. The list of competencies is a comprehensive one that is not referenced to ADE academic and occupational competencies. The program director said that she "looked at" the six model strands when she developed the curriculum, but that her basic reference was a textbook that is successful in helping students pass the Arizona certification exam for Nursing Assistant. She reported that the Nursing Assistant students have a 100 percent pass rate on this exam.

The curriculum provides for student leadership development through a required 24-week-long, two-day-a-week practicum, placement of students in summer and post-graduation jobs, and through student participation in Vocational Industrial Clubs of America/Health Occupations Education. The VICA/HOE group meets for a half hour during class time on Fridays. They do volunteer work, run a health clinic during lunch hour every Wednesday, hold fund raisers and conduct other nursing-related activities.

INSTRUCTIONAL DELIVERY

The program director for Health Care Technology teaches a Level II Medical Science course and a Level III Nursing Assistant course. The Level II course provides students with a variety of experiences related to the Health Occupations area. Students in the Level II course learn about different health occupations, learn medical terminology and body systems, study various illnesses and diseases, learn lab safety procedures, and have frequent speakers from the health field.

The Level III course provides experiences more specifically associated with the occupation of nursing assistant. The teacher manages a variety of learning experiences that include acquisition and demonstration of numerous skills related to client care, effective communication and team membership, and performance of nursing assistant duties in an applied setting. These activities include industry-realistic situations and materials to the extent that safety and a limited budget permit. They also include realistic occupational experiences provided by the 24-week , two-days-a-week practicum for each student.

IVEP Students

The admissions criteria for the Nursing Assistant program essentially precludes the admission of IVEP students. The program director reported that she feels that the program is a demanding one, and she indicated that it may be unrealistic to admit students who may have difficulty going on to postsecondary education. She indicated that some special needs students, such as hearing impaired and limited English proficiency students, are admitted to the program and that appropriate adjustments are made to accommodate their needs.

FACILITIES AND EQUIPMENT

The facility for the Nursing assistant program is one large classroom with two small connected rooms, one containing computer equipment for use with the program and one serving as an office for the two Nursing Assistant instructors. The classroom contains a variety of equipment of the type found in a medical clinic, medical teaching setting or a hospital. The classroom is reasonably well equipped for its purpose, but the environment does not simulate one that would be found in a well-funded medical clinic, laboratory or hospital. The equipment and materials clearly are based on the curriculum, even though they are not of a standard that would be common in the health industry in this country.

The program director reported that ADE funds enabled her to create and develop the Nursing Assistant program. She said she believes "we would have never implemented this program without that (ADE) funding." She indicated that she'd had only about $1000 a year from the district for the past four years, but that the district is revising its funding

scheme and she expects to get more funding in the future. She also noted that hospitals had given them much of their equipment.

TEACHER QUALIFICATIONS

There are two teachers at Ironwood High School who teach the Level II and Level III Health Occupations courses and a total of six Level II and Level III Health Occupations instructors in the Peoria district. All six are certified in Vocational Education with a Health Occupations endorsement. Both Level III Nursing Assistant instructors are also registered nursed who remain current in their field by working an "on call" basis for two or three days a month as nurses in area hospitals. The district Level II and Level III Medical Science teachers meet approximately once a month and the Level III teachers meet more frequently. They have three professional days a year to attend workshops and update their skills and knowledge.

COMMENTS

The Nursing Assistant program in the Health Occupations area at Peoria appears to be a strong program. This Level III program is closely linked to the prerequisite Level II course in Medical Science. Level I courses in Peoria are offered in the elementary schools and do not have a defined relationship to the higher-level courses. The Level III Health Occupations courses in Peoria were developed from personal experience and knowledge of the instructors and from textbooks and instructional materials familiar to them. The ADE Model Strands had little or no apparent influence on their development.

The Nursing Assistant program appears to be well supported by the district administration from the perspective of encouragement and enthusiasm, but the funding for equipment and supplies is meager. ADE support has been crucial to the development and success of the program. The instructors have also done a good job of obtaining equipment from area hospitals.

The program director cited several strengths of the program in response to question from the researchers. A primary strength was the dedication of the instructors. "They all love what they do," she said. "We really, really enjoy teaching these classes and we have a fun time teaching them...We like teenagers, we like helping people." She indicated that she does not know what has been prompted as a model (by ADE), but that it is important to have "the equipment that matches the competencies in the curriculum." She also noted that she is very pleased with the availability of training sites in the nearby area and the "terrific support out in this northwest community."

IRONWOOD HIGH SCHOOL, Peoria Unified: Health Occupations—Nursing Assistant

Program Area and Characteristics	LEVEL		
	I	II	III
I. ORGANIZATION			
1. Instruction provides:			
• an exploration/skill development for all occupations.	yes		
• skill development for a cluster of related occupations.		yes	
• skill development for specific occupation(s).			yes
2. Students served:			
• 100% in the targeted grade level (7-9).	no		
• In the targeted grade levels (9-10) have previously completed a Level I experience.		no	
• Students have the opportunity to participate in more than one cluster, if desired.		yes	
• In the targeted grade levels (11-12) have completed Level I and II experiences.			no
3. The experience is a minimum of:			
• one year in length or equivalent to 225 min/week.	yes	yes	
• 360 hours in length.			yes
4. The experience provides a coherent sequence of instruction:			
• required for all vocational technological programs.	no		
• each cluster leads to at least one specific Level III experience.		no	
• leads to employment and advanced training.			yes
5. The experience has the support of the local school/district administration.	ns	yes	yes
6. An active advisory council assists in designing and implementing this experience.	ns	yes	yes
II. CURRICULUM			
7. Curriculum is competency-based with each student's attainment of each competency monitored.	yes	yes	yes
8. Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in:			
• the draft Level I Framework.	ns		
• at least one cluster.		yes	
• specific occupation(s).			yes

Program Area and Characteristics	LEVEL I	II	III
II. CURRICULUM — *continued*			
9. Curriculum includes all six of the Model "Strands."	ns	no	no
10. Curriculum provides for student leadership development, which can include the use of vocational student organizations.	ns	yes	yes
III. INSTRUCTIONAL DELIVERY			
11. The instruction provides students with experiences in:			
• a variety of occupational areas.	yes		
• occupational areas associated with the particular cluster(s).		yes	
• specific occupation(s).			yes
12. The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	ns	yes	yes
13. Students work in groups or teams frequently.	ns	yes	yes
14. Instructional activities include industry-realistic situations and materials, and are evaluated according to industry-related standards.	ns	yes	yes
15. The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	ns	ns	yes
IV. FACILITIES AND EQUIPMENT			
16. The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	ns	yes	yes
17. The environment simulates one that would be found in business and industry.	ns	no	no
18. The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	ns	yes	yes
V. TEACHER QUALIFICATIONS			
19. The teacher(s) are vocationally certified in:			
• vocational areas or if a team of teachers instruct the Level I experience, at least one will be vocationally certified.	ns		
• appropriate vocational areas related to the specific cluster content.		yes	
• the specific vocational area.			yes
20. The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	ns	yes	yes

Site: **KINGMAN HIGH SCHOOL, Mohave Union High School District**
Program: **Trade & Industry—Video Production**

SETTING

The Video Production program at Kingman High School in the Mohave Union High School District was selected to represent a Model-funded "comprehensive" program. Kingman High School is located in a rural district in northwestern Arizona, Mohave County.

METHOD

Data collection consisted of interviews with the Vocational Director, the Video Production teacher, and the Mohave Community College ITV Technician, who is also a member of the District Advisory Committee. A tour of the facility was conducted and written and video documentation was gathered. Documents provided for review included the following:

1. Course Description Booklet/Registration Information
2. Course Competencies
3. Vocational/technological Curriculum Framework: Level I
4. Tech-Prep Articulation Agreement
5. Video Production Proposed Tech-Prep Program
6. Lesson Plans: Video Production/Media English and Video Production Orientation
7. Newspaper Article: TV Yearbook Production
8. Kingman High School Video Yearbook

This report results from an analysis of staff interviews, the documentation, and the facility tour.

ORGANIZATION

Levels I-III

Level I programs are offered through a course titled "Tech Lab-Odyssey 2000." The course is offered at the ninth grade level and is not a required course for all students. It is one year in length and explores careers in such areas as life management, administrative services and technology. The curriculum utilizes the ADE materials and covers the six strands. Particular effort has been expended by the district to develop the strands for use in the Level I program.

Competencies are defined and measured in the program, which utilizes ADE competency lists. The course is taught by a vocationally certified teacher who is also a mathematics teacher. A teaching aide also works with the program, for which the school was given a special grant to teach mathematics, technology and the strands. No vocational student organizations (VSOs) are available to students at this level.

Level II, Video Production/English, involves students in a year long program. Students may enroll in the program without having taken a required exploratory course (Level I). Students

are given 1/2 credit in English and 1/2 credit in elective. The class is team taught by a vocationally certified teacher and an English instructor. It is offered at grades 10-12.

The curriculum utilizes the ADE strands and a modified ADE curriculum which includes teacher-selected units. ADE competencies and teacher-developed competencies are utilized. The class creates and produces the Kingman High School announcements broadcast through the school television studio. A junior HERO program is available to students and generally does not include students from the Video Production/English class.

Level III, Video Yearbook (Video Production II), is a stand-alone class that is offered at grades ten through twelve. A prerequisite for the year-long program includes at least one of the following: Jr. High Video Class, Video Communication, Photo I or II class. Exceptions are made to the prerequisite requirement based on teacher approval. The program utilizes the six strands and ADE curriculum, as available. Practicum experiences are not offered but off-campus "shoots" are heavily utilized. Student activities are videoed and a video yearbook is produced to sell on campus. (A copy of the Video Yearbook was reviewed as part of the documentation.) The course is team taught by a vocationally certified teacher and an art teacher.

Local and District Support

Persons interviewed agreed that there was moderately high support (7-8 on a scale of 10) for the programs at the district level and a slightly lesser level of support with campus administration. One administrator commented that "If I have to sacrifice something (because of funding and/or scheduling), it will be in Level I electives." Staff comments were positive except to note that scheduling is a problem and they would like more time for class (block time).

Advisory Council

Two advisory groups assist the Video Production Program. One of these is an internal committee consisting of school administration, English, Math, Video, and Technology teachers and the vocational director for the district.

An external advisory committee consisting of a representative from the community college, several business representatives and two employers assist the Video Production Program. This committee is "100% committed, great". They meet two or three times a year to review the curriculum, equipment and progress of the program. In particular, the community college representative and several other committee members assist in the high school program periodically on a volunteer basis.

CURRICULUM

Kingman's Level III programs include Agricultural Business and Management, Accounting/Computing Occupations, Administrative Support, General Marketing, Child Care, Food Production Management, Institutional Home Management, Auto Mechanics, Drafting, Welding, Building Trades, and Communications/Media. Each of these programs has at least one course at Level III, but the courses are not considered necessarily as a

"comprehensive program" by district administration. Level II programs include Business Management Technology and Industrial Technology.

The vocational programs utilize the ADE strands and curriculum materials and teacher-developed materials. Within the Communications/Media program, high priority is given to the job skills needed in video production.

Vocational student organizations available to students include VICA, STRIVE, FBLA and FFA. VICA, in particular, serves video production students. Participation in VSOs is voluntary.

Student competencies are described in the course and unit objectives and are defined and measured through teacher assessment. Students are encouraged to obtain employment after graduation and/ or to continue in the nearby community college program. A 60-62% follow-up return rate one year after graduation indicated that a large number of students were continuing in the video production field.

Student progression through the vocational program(s) is tracked through the Counseling Office and by the individual teacher(s) as well. Teachers maintain competency attainment records.

INSTRUCTIONAL DELIVERY

Interviews with instructors, an advisory committee member and the vocational director confirmed that project-oriented, hands-on instruction is emphasized. Course objectives, program descriptions and units of instruction further confirmed that there is a strong emphasis on acquiring competencies, particularly in English, Math and Video Production. Applied skills as well as occupational skills have priority in the Level II and III programs.

IVEP Students

The program is available to special needs students, including LEP/academically disadvantaged students. Competencies are not defined and measured in the same way for these students. Competency lists are not included at present in the IVEP, but will be included during the FY 94-95 school year.

TEACHER QUALIFICATIONS

All teachers working with the Level I and II program are vocationally certified, with the exception of two teachers in the business area. One Industrial Technology teacher has a provisional certificate. The Video Production teacher is vocationally certified. As noted earlier, the video program is team taught with a certified art and/or English teacher. The Vocational Director indicated that "certification assistance is needed by ADE" in the technology area.

The district provides support for teachers to attend the August vocational conference, summer institutes, model site meetings and tech consortium meetings. A one-half day inservice on outcome-based education was provided by the district. In addition, the video

production instructor was given financial assistance to addend the CAMDE Trade Show, the National Association of Broadcasters and SBE meetings.

FACILITIES AND EQUIPMENT

Kingman High School moved into a newly constructed facility in the Fall, 1993. Thus, the facility is particularly modern and well-equipped. The Video Production classroom/laboratory is excellent and the district indicated that ADE funding has allowed development of this program, as well as others. The vocational director stated that "State funding has motivated teachers to take the model seriously."

The most current equipment is available to students, including roving television recorders, video tape recorders and film editors. A studio/sound stage is utilized by students in production activities and other off-campus activities are available.

COMMENTS

The program at Kingman High School nearly meets all of the criteria for a fully implemented model comprehensive program. The most notable exception is that there is no enforced requirement that students have met the prerequisite standard for entry into Level II and III programs. There are ongoing district efforts to develop a definite sequence of courses, to integrate the ADE strands into the curriculum, and to develop more discrete lists of competencies and indicators for the various program levels.

The district has developed an articulation agreement with Mohave Community College and is working to finalize the tech prep programs in Computer Technology and Video Production. The programs have strong board and community support, excellent facilities, an enthusiastic staff, and high student interest. Having adequate instructional time is a minor problem.

KINGMAN HIGH SCHOOL, Mohave UHSD: Trade & Industry—Video Production

Program Area and Characteristics	LEVEL I	LEVEL II	LEVEL III
I. ORGANIZATION			
1. Instruction provides:			
• an exploration/skill development for all occupations.	yes		
• skill development for a cluster of related occupations.		yes	
• skill development for specific occupation(s).			yes
2. Students served:			
• 100% in the targeted grade level (7-9).	no		
• In the targeted grade levels (9-10) have previously completed a Level I experience.		no	
• Students have the opportunity to participate in more than one cluster, if desired.		yes	
• In the targeted grade levels (11-12) have completed Level I and II experiences.			no
3. The experience is a minimum of:			
• one year in length or equivalent to 225 min/week.	yes	yes	
• 360 hours in length.			yes
4. The experience provides a coherent sequence of instruction:			
• required for all vocational technological programs.	no		
• each cluster leads to at least one specific Level III experience.		ns	
• leads to employment and advanced training.			yes
5. The experience has the support of the local school/district administration.	ns	yes	yes
6. An active advisory council assists in designing and implementing this experience.	ns	yes	yes
II. CURRICULUM			
7. Curriculum is competency-based with each student's attainment of each competency monitored.	yes	yes	yes
8. Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in:			
• the draft Level I Framework.	yes		
• at least one cluster.		yes	
• specific occupation(s).			yes

Program Area and Characteristics	LEVEL		
	I	II	III
II. CURRICULUM — *continued*			
9. Curriculum includes all six of the Model "Strands."	yes	yes	yes
10. Curriculum provides for student leadership development, which can include the use of vocational student organizations.	ns	yes	yes
III. INSTRUCTIONAL DELIVERY			
11. The instruction provides students with experiences in:			
• a variety of occupational areas.	yes		
• occupational areas associated with the particular cluster(s).		yes	
• specific occupation(s).			yes
12. The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	yes	yes	yes
13. Students work in groups or teams frequently.	yes	yes	yes
14. Instructional activities include industry-realistic situations and materials, and are evaluated according to industry-related standards.	yes	yes	yes
15. The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	ns	ns	ns
IV. FACILITIES AND EQUIPMENT			
16. The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	ns	yes	yes
17. The environment simulates one that would be found in business and industry.	ns	yes	yes
18. The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	ns	yes	yes
V. TEACHER QUALIFICATIONS			
19. The teacher(s) are vocationally certified in:			
• vocational areas or if a team of teachers instruct the Level I experience, at least one will be vocationally certified.	yes		
• appropriate vocational areas related to the specific cluster content.		yes	
• the specific vocational area.			yes
20. The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	ns	yes	yes

Site: **BUCKEYE UNION HIGH SCHOOL, Buckeye Union High School District**
Program: **Agriculture Education—Agricultural Business & Management**

SETTING

The Agricultural Business and Management program at Buckeye High School was selected to represent a Model-funded "comprehensive" vocational-technological program. Buckeye is a union high school district in a rural environment in Maricopa County. Two teachers are responsible for the delivery of the program.

METHOD

Data collection consisted primarily of staff interviews. The high school principal acts as the vocational coordinator of the programs and was met with briefly. The teacher who has chief responsibility for the instruction and coordination of the agriculture programs at Buckeye was the key interviewee. During the site visit, a comprehensive tour of the facilities was given by one eleventh-grade and one twelfth-grade student. Each of them were involved in the program and had aspirations of continuing their education in a parallel career field. The interview with the instructor was audiotaped; the student tour of the facility was videotaped. In addition, documents were provided for review and included:

1. "Biotechnology and Ag Business Management Program" (program of study)

   This document outlines the course offerings in this program. It includes units of instruction for each course, student competencies for each course, and classroom safety regulations. The document also includes a curriculum guide which illustrates the objectives of each course and how each course aligns with the corresponding Arizona *Essential Skills*. Activities and evaluation criteria are also delineated.

2. Student Competencies portfolio

   This document portrays the means by which the agriculture teachers at Buckeye monitor and assess the competencies developed by each of the students enrolled in the Ag/Business management program. Competencies include those related to leadership development, animal science, plant science, and specific skill areas addressing agricultural construction.

This report results from an analysis of staff and student interviews, the facility tour, and the program documents.

ORGANIZATION

Levels I-III

Level I consists of a course entitled "AG and the FFA" (Future Farmers of America). The course is exploratory in nature and is an elective open to all students, although ninth grade students are encouraged to enroll. Students explore animal and plant science, along with recordkeeping and other business-related skills, using computer networks and file servers

purchased with ADE funds. Two "independent labs" are interconnected by the networks. These two labs, one in the business department and one in the agriculture department, jointly serve students in the program.

Staff note that the first two years of student enrollment in agriculture business "are really exploratory." A Lab 2000 program is also offered that was described as a "great exploratory tool." The linkage between the Lab 2000 program and the Ag/Business management program was not specified. However, Lab 2000 was not considered an essential element of the Level I program.

Level II consists of a course entitled "Plant & Animal Science." Level I is required for the program, *if* the student is to be a four year completer. Students completing the Level II course earn a science credit toward meeting the high school's graduation requirements. Asked how Level II is differentiated from Level I, staff note: "[There isn't] too much of a difference. [Students] gain more knowledge in Level II. It's building on what they've learned in their exploratory courses."

The courses offered at Level III include Biotechnology, Livestock Production Management, Landscape Design and Installation, Crop Production Management and Ag Business Management,

Level I and level II courses are considered preparatory but *not necessarily* prerequisites for enrollment in advanced level courses. Level III courses have a strong emphasis on science and the department is currently discussing with the district administration the possibility of granting a lab science credit for successful completion of these courses.

There is considerable collaboration between the agriculture faculty and the science faculty in relation to the courses, most specifically the Biotechnology course. Comparing science and agriculture laboratory facilities, the agriculture teacher stated: "We have better quality equipment due to the [ADE] grant." In addition, in developing and designing the biotech lab, Buckeye staff consulted with a technician at the University of Arizona. According to the teacher, "We modeled after U of A."

Local and District Support

The overall district support of the program was rated as a seven on a scale from one to ten. There *was* some concern expressed about policies regarding class enrollment. At present, classes are combined when class sizes are too low to meet district minimums. Because of having classes combined due to limited enrollment, there is some concern that "the program [is] not as comprehensive" as staff would like. Although the district was felt to have been supportive in the past, staff expressed a desire "to see more leniency in [class size] numbers," particularly since there are plans to develop new programs.

With a growing district enrollment and an expanding program, staff expressed hope that the district would consider hiring another agriculture teacher. Because of limited district resources, however, there was doubt that this would happen. In other areas, such as facilities and equipment, program personnel felt that there was adequate funding: "[The district is] real cooperative; we have an adequate budget to fund our current program."

Advisory Council

FFA alumni and employees and owners of local business and industry act as Buckeye's advisory group for the Agricultural Business and Management program. The group's membership includes approximately 30 individuals who assist in curriculum review and project evaluation. According to program personnel: "They'll let you know if you're not doin' things right."

Reportedly, the group has been very active in the development of the biotechnology program. The group meets monthly. Asked about the level of support from the advisory committee, the instructor stated: "I'd rate 99% of them a 10 [with 10 being high]. They are real supportive. If I need something done and I can't physically do it myself, they'll help me find a way to get it done." The group also helps generate funds for scholarships for graduating agriculture students.

CURRICULUM

Buckeye's curriculum guide and course outlines illustrate the scope of the curriculum for each of the courses within the AG/Business program. These materials demonstrate the linkages of course objectives with Arizona *Essential Skills*. When asked about the integration the VTE Model's six curriculum strands, program personnel expressed unfamiliarity with these strands.

Leadership development is addressed in both the classroom curriculum and vocational student organizations (VSOs). While FFA is the primary VSO, students and instructors also have worked with Future Business Leaders of America (FBLA) and the school's Total Quality Management (TQM) program. These program linkages are intended to broaden agriculture students' awareness of the world of business and enable them to experience the connections between agriculture and business. VSOs were described as "a very important part [of the program]; it's a great motivational tool."

Each student's competencies are determined by the teachers through observation and project completion. According to the instructor, "All these tasks tie in to some kind of project. Each individual student will have a project. Each of the skills has a terminal objective which is to create a project utilizing these skills."

All competencies are measured according to projects completed at each of the three levels. While the teacher assigns projects in Levels I and II, student-initiated projects are commonplace and expected at the advanced Level III.

Students are individually monitored and evaluated by the instructors. Students are tracked and identified as completers when they have successfully accomplished each of the competencies outlined in the portfolio.

In conjunction with the University of Arizona, the school has developed a computerized Program Completer Report that enables high school staff to follow the progress of their graduates. Progress is monitored one and five years following graduation.

INSTRUCTIONAL DELIVERY

Through brief observation of classrooms, an interview with the teacher, and conversations with students, it appeared that the majority of classroom instruction in the Level II and III courses focused on providing hands-on, project based experience for students. The instruction also emphasized the relevance of academic subject content, i.e., mathematics and science, with applications in agriculture and business.

IVEP Students

When asked how instruction accommodates the special needs of IVEP students, the teacher responded, "I don't necessarily single them out. In the skill development area, I expect them to attain as well as they can. In fact, I've had some IVEP students that...do better than the other kids. One is now our shop manager. He's learned a lot of agricultural skills hands-on, which is a great vehicle for any student."

Instructional aides are also provided by the district to aid with Limited English Proficient students. The same competency expectations are held of all students, regardless of classification.

TEACHER QUALIFICATIONS

Both teachers are permanently certified in agriculture education. The teacher interviewed is pursuing his master's degree in agricultural education at the University of Arizona. He is also active in developing Ag contests at the state level. He has participated in TQM training and has been a guest speaker. The other instructor is very active with the county and state fairs, serving on the board of directors. The district has offered inservice on topics such as alternative teaching strategies. However, time committed to in-service was eliminated during the 1993-94 academic year to address issues related to the Arizona Student Assessment Program, i.e., curriculum alignment with state Essential Skills. Both agriculture teachers regularly participate in the state vocational training workshops.

COMMENTS

Overall, the teacher described the Ag/Business program at Buckeye as a "complete program." Its strengths are in the quality of the equipment and laboratories, its positive relations with local business and industry, and its appropriateness as a career alternative for students. To improve the program, a physical expansion of the facility is needed, i.e., an off-site field for livestock. Also, the school is presently expanding its landscaping program, which could require another teacher to manage the program. The biggest limitation, according to the teacher, is time.

With the exception of the lack of a "required" Level I course and the absence of the curriculum strands, the program at Buckeye meets most of the ADE criteria for a comprehensive program. Once again, as at other sites, the levels are defined as preparatory experiences for each other.

The teacher seemed to have great respect for the members of the advisory group.

BUCKEYE HIGH SCHOOL, Buckeye UHSD: Agriculture—Business & Management

Program Area and Characteristics	LEVEL		
	I	II	III
I. ORGANIZATION			
1. Instruction provides:			
• an exploration/skill development for all occupations.	yes		
• skill development for a cluster of related occupations.		yes	
• skill development for specific occupation(s).			yes
2. Students served:			
• 100% in the targeted grade level (7-9).	no		
• In the targeted grade levels (9-10) have previously completed a Level I experience.		no	
• Students have the opportunity to participate in more than one cluster, if desired.		yes	
• In the targeted grade levels (11-12) have completed Level I and II experiences.			yes
3. The experience is a minimum of:			
• one year in length or equivalent to 225 min/week.	yes	yes	
• 360 hours in length.			yes
4. The experience provides a coherent sequence of instruction:			
• required for all vocational technological programs.	no		
• each cluster leads to at least one specific Level III experience.		yes	
• leads to employment and advanced training.			yes
5. The experience has the support of the local school/district administration.	yes	yes	yes
6. An active advisory council assists in designing and implementing this experience.	yes	yes	yes
II. CURRICULUM			
7. Curriculum is competency-based with each student's attainment of each competency monitored.	yes	yes	yes
8. Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in:			
• the draft Level I Framework.	yes		
• at least one cluster.		yes	
• specific occupation(s).			yes

Program Area and Characteristics	LEVEL		
	I	II	III
II. CURRICULUM — *continued*			
9. Curriculum includes all six of the Model "Strands."	no	no	no
10. Curriculum provides for student leadership development, which can include the use of vocational student organizations.	yes	yes	yes
III. INSTRUCTIONAL DELIVERY			
11. The instruction provides students with experiences in:			
• a variety of occupational areas.	yes		
• occupational areas associated with the particular cluster(s).		yes	
• specific occupation(s).			yes
12. The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	yes	yes	yes
13. Students work in groups or teams frequently.	yes	ns	yes
14. Instructional activities include industry-realistic situations and materials, and are evaluated according to industry-related standards.	ns	no	yes
15. The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	ns	ns	yes
IV. FACILITIES AND EQUIPMENT			
16. The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	yes	yes	yes
17. The environment simulates one that would be found in business and industry.	ns	ns	yes
18. The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	yes	yes	yes
V. TEACHER QUALIFICATIONS			
19. The teacher(s) are vocationally certified in:			
• vocational areas or if a team of teachers instruct the Level I experience, at least one will be vocationally certified.	yes		
• appropriate vocational areas related to the specific cluster content.		yes	
• the specific vocational area.			yes
20. The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	yes	yes	yes

Site: **FOUNTAIN HILLS JUNIOR-SENIOR HIGH SCHOOL, Fountain Hills Unified School District**

Program: **Trade and Industry—Radio/TV Production**

SETTING

The Radio/TV Production program at Fountain Hills Junior-Senior High School was selected as representative of a self-reported comprehensive Trade and Industry program that has never received additional ADE "Model site" funding. A new school, and the only secondary school in the Fountain Hills Unified School District, this site is located in a suburban community several miles to the northeast of Scottsdale.

METHODS

The data were collected through individual interviews with the high school principal and the radio/TV production teacher, and a tour of the instructional facility. Two course syllabi, one for the introductory course and one for the advanced course in video production, were also provided. This site was selected as a late replacement for another site. As a result, the site visit was scheduled on short notice for the teachers' last day at school before summer break. This report was derived from an analysis of the interviews, the tour of facilities and the course syllabi.

ORGANIZATION

Level I

According to the school principal, the Level I class, Introduction to Video Production, is a one-semester elective course open to students in grades 9-12. "It's an introduction to the equipment, to the terminology. The students get some experience going out and filming things. It's just to get their feet wet." Intro. to Video Production is a prerequisite for Advanced Video Production. When asked about how Level I differentiates from Levels II and III, the principal responded: "Level I is strictly introductory. If students want to get more involved, they'll sign up for the Advanced Video Class."

The introductory video course does not address many of the ADE Level I criteria. It is an elective course, targeting 9th through 12th grade students, is only a semester in length and does not follow the ADE draft Level I curriculum framework.

The school also offers a LAB 2000 course which is considered by staff to be the Level I component referred to on our questionnaire.

Level II and Level III

The Advanced Video Production is a year-long course which the principal defines as the Level II and Level III course. Students may enroll in the course for more than one year. In other words, the first year a student enrolls in Advanced Video Production, the course is considered Level II; the second year of enrollment is considered Level III. According to the principal, "It's the same class. It's an Advanced Video Production class. We're not blessed

with the teacher or the time to create four or five sections of video production, so the teacher will have some kids in the Advanced class for two or three years."

Both second and third year students are enrolled in Advanced Video Production. In actuality, there is no Level II program in radio/TV production at this site. The advanced course more closely parallels Level III criteria. There is no presentation of occupational clusters in the course.

Local and District Level Support

The principal's support is demonstrated through his commitment of school time to daily and monthly broadcasts and of funds to support professional development. The principal described the district support as follows: "I think in principle the support is high, but in carry through, it's very low. It's one thing to say 'yes, we think the video productions class is real great, but unfortunately you don't have any money'.... The financial support is very weak, but—in theory—they support the idea."

Advisory Council

The school has a newly formed (April 1994) site-based council which is made up of teachers, students, administrators, and parents. There are also some community groups that help with fund raising for special vocational education projects, but there is no advisory council, *per se*, for vocational education programs.

CURRICULUM

When asked if he knew how the curriculum covered the six strands, the principal answered "No I don't." The instructor's response to questions about the use of ADE curriculum further indicated that neither district nor state curriculum guided the video production program at this site. VTE curriculum strands are not utilized.

The instructor interviewed for this report was not the individual who was responsible for completion of the VTE Performance Standards report. He stated that "for the most part I've been left out of the Vocational Education Department." In regard to evaluating student skill development, the teacher has developed his own set of competencies according to the particular project on which students are working. He referred to the course syllabi as giving "a general outline of those things."

Much of the curriculum, especially in the advanced level course, is project-based. Level II and Level III are represented at this site by one course through which the instructor individualizes instruction based on the student's level of competence. The teacher actively collaborates with other instructors in core academic areas, and students frequently produce projects in the video class to meet requirements in other courses.

The Video Club at Fountain Hills is responsible for the daily news broadcast and a quarterly special broadcast. Other projects undertaken by the Video Club include a videotaped campus tour, a junior American History project, and a fashion show produced with the Life Management department. All students in the Advanced Video Production class are considered members of the Video Club.

INSTRUCTIONAL DELIVERY

The instructional strategies used at the advanced level emphasize projects of different types. The students produce a daily news broadcast that is shown in each of the school's classrooms. They also produce monthly special programs, orientation programs for entering sixth grade students, and school information programs used by local realtors. The principal described this hands-on approach to learning as one of the program's assets: "We have a venue for the students to exhibit their productions on a daily basis. It's not just a class...this is a real hands-on learning experience....There is an avenue for them to be able to exhibit their goods."

The occupational exploration is limited to fields directly related to video production, e.g., editing, dubbing, etc. The program does not include radio production because of the limited equipment and lack of a studio facility. The teacher individualizes instruction for students according to their level of proficiency. Students regularly work on group projects, although some individual projects are also pursued. Due to equipment and facility limitations and the prohibitive cost of upgrading, the program is far from an "industry-realistic situation."

IVEP Students

There are no IVEP students enrolled in this program.

FACILITIES AND EQUIPMENT

Concerns expressed by the principal and the teacher about facilities and equipment were validated by a tour of the facility. One classroom was used for the video production program. Equipment was limited to a small number of VCRs (10), some low-quality audio-dubbing tape recorders, and one TV. Other equipment included things such as tripods and cabinets for storage of tapes. Some computerized graphic art software and a computer terminal were used for graphics production and title-making. Although the teacher had been very creative in his use of the facility and the principal was very supportive of the program, the equipment and facility restrictions severely limited this program's possibility of approaching industry standards. The principal reported that, "We're using what amounts to the standard home VHS-type camera as opposed to the VHS-S format...We're not at that level. And probably, unless some funding comes in, I doubt that we'll ever get to that kind of equipment in this facility."

TEACHER QUALIFICATIONS

The teacher who teaches the video production courses is certified in English but had taught a video production course in a Pinal County school for one year prior to coming to Fountain Hills. Neither the principal nor the instructor were aware of any certification specific to radio/TV production. Both noted, however, that they had not received state funding for their program because the teacher was not appropriately certified in vocational education.

The district supports professional development of its vocational/technological teachers. The video production teacher attended a seminar offered by SONY which cost the district

around $1000. The principal "wanted him to pick up some ideas from people who are in the business....It's hard to find workshops in video production put on by the state or even private concerns here locally....I'd like to see the state do more in some of these more newly developing areas."

The school principal also identified district inservice training as a source of professional development. Inservice during 1993-94 was substantially dedicated to assessment, with particular emphasis on the value of portfolio and project assessment. 1994-95 inservice programs will include a component addressing interdisciplinary instruction.

COMMENTS

The program at its current level of development represents a traditional occupational preparation program, incorporating two levels of preparation—introductory and advanced. Many factors seem to influence the program's lack of movement toward a comprehensive program. These include: lack of communication with the Vocational Education program and ADE, limited funding, and limited development time because of the newness of the school and program.

The principal described the greatest strength of the program as the teacher, who "gets the kids excited about the program." Nevertheless, growing enrollment has required the current instructor to teach English full-time in the 1994-95 school year. The district planned to recruit for a an additional part-time teacher for the 1994-95 Video Production classes.

FOUNTAIN HILLS JR/SR HS, Fountain Hills Unified: Trade & Industry—Radio & TV Production

Program Area and Characteristics	LEVEL		
	I	II	III
I. ORGANIZATION			
1. Instruction provides:			
• an exploration/skill development for all occupations.	no		
• skill development for a cluster of related occupations.		no	
• skill development for specific occupation(s).			yes
2. Students served:			
• 100% in the targeted grade level (7-9).	no		
• In the targeted grade levels (9-10) have previously completed a Level I experience.		no	
• Students have the opportunity to participate in more than one cluster, if desired.		no	
• In the targeted grade levels (11-12) have completed Level I and II experiences.			no
3. The experience is a minimum of:			
• one year in length or equivalent to 225 min/week.	no	yes	
• 360 hours in length.			yes
4. The experience provides a coherent sequence of instruction:			
• required for all vocational technological programs.	no		
• each cluster leads to at least one specific Level III experience.		no	
• leads to employment and advanced training.			ns
5. The experience has the support of the local school/district administration.	ns	ns	yes
6. An active advisory council assists in designing and implementing this experience.	no	no	no
II. CURRICULUM			
7. Curriculum is competency-based with each student's attainment of each competency monitored.	yes	yes	yes
8. Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in:			
• the draft Level I Framework.	no		
• at least one cluster.		no	
• specific occupation(s).			no

Program Area and Characteristics	LEVEL		
	I	II	III
II. CURRICULUM — *continued*			
9. Curriculum includes all six of the Model "Strands."	no	no	no
10. Curriculum provides for student leadership development, which can include the use of vocational student organizations.	ns	no	no
III. INSTRUCTIONAL DELIVERY			
11. The instruction provides students with experiences in:			
• a variety of occupational areas.	no		
• occupational areas associated with the particular cluster(s).		no	
• specific occupation(s).			yes
12. The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	yes	yes	yes
13. Students work in groups or teams frequently.	yes	yes	yes
14. Instructional activities include industry-realistic situations and materials, and are evaluated according to industry-related standards.	no	no	no
15. The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	no	no	no
IV. FACILITIES AND EQUIPMENT			
16. The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	no	yes	yes
17. The environment simulates one that would be found in business and industry.	no	no	no
18. The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	no	no	no
V. TEACHER QUALIFICATIONS			
19. The teacher(s) are vocationally certified in:			
• vocational areas or if a team of teachers instruct the Level I experience, at least one will be vocationally certified.	no		
• appropriate vocational areas related to the specific cluster content.		no	
• the specific vocational area.			no
20. The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	yes	yes	yes

Site: **MIAMI HIGH SCHOOL, Miami Unified School District**
Program: **Home Economics—Child Development**

SETTING

Miami High School was selected as a self-described "comprehensive" program that has never received ADE Model site funding. The site is located in Gila County in a rural area having some tourist industry and copper mining as its primary income source.

METHOD

Data collection consisted of meeting with the high school principal, who is also the vocational coordinator. Additional meetings were held with the vocational staff, particularly the Home Economics teacher. A brief tour of the facility was also conducted.

Documentation reviewed included the following:

1. Vocational Education Advisory Committee Evaluation (Life Management Committee)
2. Articulation Meeting minutes (Level I program)
3. Articulation Agreement with Eastern Arizona College
4. Vocational Advisory Board member list
5. Automotive Technology Level I-III graphic (Model for other programs)
6. Miami High School Class Schedule

Copies of this documentation are available for review. This report summarizes conversations with the respective persons and review of the documentation provided.

ORGANIZATION

Levels I-III

Miami Unified District offers a Level I program for students in grades seven and eight. It is a career exploration program which is required for all students. The course is one semester in length and explores life management, building trades, keyboarding, and graphic arts occupational areas. There are no vocational student organizations. The course is taught by two teachers who are certified in home economics and woods. The Level I program is new for the district in FY 93-94.

Level II programs are offered in industrial technology and administrative support areas. Commercial Art, Life Management, Welding, and Building Trades are available. The courses are one semester in length and are offered for one full year. They utilize ADE-defined curriculum strands and ADE curriculum materials as they are available. Other teacher-prepared materials are also used. Family Living units will be added during 1994-95. Vocational student organizations are available, including VICA and FBLA.

Level III programs are available in Administrative Support, Building Trades, Auto Mechanics, Commercial Art, Welding, Child Development, Accounting, and General Marketing. The Advanced Child Development program was offered for the first time during FY 1993-94. Level III courses utilize ADE and teacher prepared competencies. The Principal has indicated that they still "need more curriculum change to provide competitive career skills."

Local and District Support

On a scale of one to ten, with ten being high, overall district support for the programs was rated at the 8-9 level with the exception of one program — Administrative Support, which was rated at the 5-6 level. While the district uses Perkins funds, it has very limited district funds that are used to support the programs. ADE has notified the district that they must improve in this effort.

Advisory Council

An overall district Vocational Advisory Committee is operational and meets on a monthly basis. It has six community, three community college, and several district ex-officio members. Among their duties, this committee has assisted the district to conduct ADE Performance Standards reviews.

CURRICULUM

As noted, Miami High School offers training programs in several occupational areas. The programs utilize some ADE materials in the Level II programs and will utilize ADE curriculum and strands materials in the Level III programs beginning in the 1994-95 school year. No practicum experiences were offered during 1993-94, but will be available the following year. Level II programs offer vocational student organization (VSO) leadership opportunities through VICA and FBLA.

The district also participates in the Tech Prep coordination program with Eastern Arizona College to articulate curriculum.

ADE Competency Lists and other teacher-developed competencies are used in the programs. Students are individually monitored by teachers. Competencies are defined and measured through performance and cognitive testing.

Follow-up of program completers after high school graduation is conducted. Most graduates obtain employment in the mines, food services and government services areas. Of the students who continue their education, most go to a community college (Mesa Community College or Eastern Arizona College—Gila Pueblo Campus) and do *not* receive a bachelor's degree.

INSTRUCTIONAL DELIVERY

The principal and vocational instructors confirm that the primary method of instructional delivery is through classroom projects and discussion. Hands-on opportunities are available. In the Child Development program, there is an excellent preschool center. The Life Management 1 and 2 program emphasizes non wage-earning activities.

IVEP Students

Permanent files for all students are maintained with the counselors. Teachers must notify counselors of accommodations made on the IVEPs for special needs students. Modified competencies are used, as needed. Adult aides are utilized to assist severe and profoundly disabled persons.

FACILITIES AND EQUIPMENT

The facilities and equipment at Miami High School are in a state of flux. The automotives area is well equipped; graphics will get additional equipment next as will the business areas. With the exception of the preschool center, the Home Economics facility is in need of major modifications to meet industry standards. Equipment in the area, though, is quite good, including two new IBMs for classroom use.

TEACHER QUALIFICATIONS

All teachers in the Level II and III programs have appropriate vocational certification, and all teachers regularly participate in upgrading their skills through professional development. Professional development activities are made available through participation in the Vocational Summer Conference. Both the automotive and life management instructors have attended curriculum workshops. Additional inservice has been provided on classroom management and discipline practices.

COMMENTS

There is consensus among staff and the principal that the programs at Miami High School have good enrollments for electives. The district is in the process of upgrading several program areas in facilities and equipment and in curriculum and instruction. Funding for staff and equipment continues to be a problem. There are six program areas in the vocational area and they "are strong and supportive of each other." In addition, the programs generally enjoy strong Board and community support. The district has been moving toward a strong Tech Prep curriculum and is working cooperatively with the nearby community college to articulate curriculum efforts.

While the high school is making progress toward realizing a fully implemented "model" program, the Child Development program in the Home Economics area does not, to date, satisfy all ADE criteria for a model comprehensive program.

MIAMI HIGH SCHOOL, Miami Unified: Home Economics—Child Development

Program Area and Characteristics	LEVEL		
	I	II	III
I. ORGANIZATION			
1. Instruction provides:			
• an exploration/skill development for all occupations.	no		
• skill development for a cluster of related occupations.		yes	
• skill development for specific occupation(s).			yes
2. Students served:			
• 100% in the targeted grade level (7-9).	yes		
• In the targeted grade levels (9-10) have previously completed a Level I experience.		yes	
• Students have the opportunity to participate in more than one cluster, if desired.		yes	
• In the targeted grade levels (11-12) have completed Level I and II experiences.			no
3. The experience is a <u>minimum</u> of:			
• one year in length or equivalent to 225 min/week.	no	yes	
• 360 hours in length.			yes
4. The experience provides a coherent sequence of instruction:			
• required for all vocational technological programs.	no		
• each cluster leads to at least one specific Level III experience.		yes	
• leads to employment and advanced training.			yes
5. The experience has the support of the local school/district administration.	yes	yes	yes
6. An active advisory council assists in designing and implementing this experience.	no	yes	yes
II. CURRICULUM			
7. Curriculum is competency-based with each student's attainment of each competency monitored.	ns	yes	yes
8. Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in:			
• the draft Level I Framework.	ns		
• at least one cluster.		yes	
• specific occupation(s).			yes

Program Area and Characteristics	LEVEL		
	I	II	III
II. CURRICULUM — *continued*			
9. Curriculum includes all six of the Model "Strands."	ns	no	no
10. Curriculum provides for student leadership development, which can include the use of vocational student organizations.	no	yes	yes
III. INSTRUCTIONAL DELIVERY			
11. The instruction provides students with experiences in:			
• a variety of occupational areas.	yes		
• occupational areas associated with the particular cluster(s).		yes	
• specific occupation(s).			yes
12. The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	ns	yes	yes
13. Students work in groups or teams frequently.	ns	yes	yes
14. Instructional activities include industry-realistic situations and materials, and are evaluated according to industry-related standards.	ns	ns	no
15. The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	ns	ns	yes
IV. FACILITIES AND EQUIPMENT			
16. The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	no	no	no
17. The environment simulates one that would be found in business and industry.	ns	no	no
18. The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	ns	yes	yes
V. TEACHER QUALIFICATIONS			
19. The teacher(s) are vocationally certified in:			
• vocational areas or if a team of teachers instruct the Level I experience, at least one will be vocationally certified.	yes		
• appropriate vocational areas related to the specific cluster content.		yes	
• the specific vocational area.			yes
20. The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	yes	yes	yes

Site: **ALCHESAY HIGH SCHOOL, Whiteriver Unified School District**
Program: **Business Education — Administrative Support**

SETTING

Alchesay High School in the Whiteriver Unified District is located in east central Arizona in Navajo County on the Whiteriver Apache Reservation. The school is in an isolated, rural area with few businesses. However, because the community of Whiteriver is the tribal capital, there are both tribal and federal government employment opportunities. The high school was selected to represent a self-reported "comprehensive" program that has never received ADE "Model site" funding. Two teachers are responsible for the Business Education—Administrative Support program.

METHODS

Data collection consisted of interviews with program and district personnel, including two business instructors, four other vocational teachers, and the vocational coordinator. The site evaluator also had a brief meeting with the principal and another meeting with seven students from a cross-section of vocational programs. Documentation for review included:

1. Business Procedures/Technology Course Outline
2. ADE Project Proposal
3. Student Enrollment Handbook
4. Alchesay High School Vocational Program Video

This report summarizes information garnered from the site visit and interviews.

ORGANIZATION

Level I

Level I consists of three courses: Introduction to Technology, Life Skills, and Special Needs Vocational Exploration. The Level I program utilizes the Lab 2000, which will be moved to the Junior High School program effective September, 1994. The program has emphasized manufacturing, construction, transportation, and communication. All incoming freshmen are required to take this half-credit course in addition to the Life Skills half-credit course.

Life Skills focuses on entry level employment skills. TV/media will be added to the high school curriculum in 1995-96 through the English Department. Because of the move of the Lab 2000 to the middle school, a 12-station drafting program will be initiated in the high school. Keyboarding will be offered at the seventh grade.

The Special Needs Vocational Exploration course allows special needs students the opportunity to complete the Level I course and mainstream when they have attained 80 percent of the competencies for the course.

Level I programs are one semester in length.

Level II

The Level II course clusters include keyboarding, information processing, Shorthand I, bookkeeping and Typing I. These courses target competencies that are prerequisites to the Level III program in Administrative Support. Other Level II programs available include Life Management, Automotive, Drafting/Design Technology, Carpentry, and Health Careers. All Level II programs are one year in length.

Level III

The Comprehensive Administrative Support Program, Level III, emphasizes word processing, spreadsheets, graphics, database management, and telecommunications. Prerequisite course work (Level II) is required for enrollment in the Administrative Support Program. Other Level III courses (Typing II and Shorthand II) are articulated with Northland Pioneer College programs. A written articulation agreement does not exist, but the crosswalk of competencies is in process. Level III programs are one year in length.

Local and District Support

Overall, district support for the programs was rated as 8-9 on a scale of 10, with 10 being high. The district has a new superintendent as of 1993-94. As a result, staff are more optimistic about the level of administrative support. There is no written Board policy statement regarding vocational education, although there was a recent Board resolution in support of the new Global Office Systems Beyond 2000 proposal for the Administrative Support program.

Students indicated that they feel they have good opportunity to enroll in vocational programs and they are generally satisfied with the programs.

Advisory Council

All programs have been reviewed by the district advisory committee. Most recently the Vocational Drafting proposal was developed for 1994-95 and reviewed by the committee. All programs are also reviewed by an in-school steering committee before becoming target programs.

The district's advisory committee has representation from Indian Health Services, the Bureau of Indian Affairs, Apache Tribal Child Care Services, and the Tribal Apprenticeship and Education Offices. The committee meets every other month to review curriculum. They have also participated in the Performance Standards Evaluation.

CURRICULUM

Several changes will occur in the high school curriculum as a result of Lab 2000 moving to the middle school. Drafting Technology will be enhanced. An exploratory health program, Commercial Foods, and Apprenticeship will be permanently added in 1994-95. Entrepreneurship, Business Economics and Cooperative Education will be added on a rotating basis to the Level III program. Business English, General Office Practice, and

Communications are being added to the Level II program and will use a team teaching/cross-curriculum approach.

In particular, the Administrative Support program utilizes ADE strands and curriculum materials. Other programs, including Drafting, are still developing these materials. The Building Trades program offers co-credit with Northland Pioneer College.

Leadership activities for students in Levels II and III are available through two vocational student organizations: STRIVE and FBLA. VICA will be operational in 1994-95.

Competencies are defined and measured in all programs through teacher tracking. In the Administrative Support program, students work on a contract basis. The contract incorporates both ADE competencies and teacher-directed activities utilizing the six strands.

A district study has revealed that the Administrative Support program utilizes approximately 325% of the competencies with another 19 percent in place but needing upgrading. They have estimated that 47 percent of the competencies are non-existent and are working to add these to the curriculum in FY 95. Six learning/interest stations have been proposed that would be devoted to the strands. These would be added to the Administrative Support program. These stations, combined with the course additions described above, will provide 100 percent of the competencies and the six strands.

The Vocational Director keeps the data base for student tracking purposes. Follow-up efforts have shown that nearly 75 percent of those responding are in the military, in college and/or working.

INSTRUCTIONAL DELIVERY

A simulated model office atmosphere is utilized in the Administrative Support program. The equipment is particularly good and represents industry standards. New local area network (LAN), computer hardware, and office furnishings have been proposed to further enhance the program. Project-based activities and student performance contracts are used in the program. Local advisory council members serve as guest speakers. Simulated job interviews, with video replay, are also utilized.

The district has proposed networking all three business classrooms next year and utilizing a modem connect system in which students may communicate with other schools in Arizona by use of electronic mail. Proposals to update the facility include adding two simulated office classrooms and one multi-media learning classroom with 20 computer workstations.

IVEP Students

All students are required to develop a four-year plan on entrance into Alchesay High School. The Vocational Coordinator indicated that there is not enough follow-through by counseling staff when scheduling, but that the problem is being corrected gradually. As IVEP students attain 80 percent of the competencies in the Level I program, they are transitioned to the Level II and/or III programs as appropriate. Teachers identify modified

competency goals for each student and measure their performance accordingly. Targeted state competencies are utilized, particularly for IVEP students.

FACILITIES AND EQUIPMENT

Major facilities/equipment plans affecting the Level III Administrative Support program have been described above. In general, the facilities at Alchesay High School are in need of preventative maintenance. Several areas also pose housekeeping problems. The new administration has indicated an interest in generally upgrading the facility. Shop and automotives areas are particularly crowded, while the business area has ample-sized rooms. Some of the curriculum changes described earlier will also necessitate upgrading several classrooms.

TEACHER QUALIFICATIONS

All teachers in the Level II and III programs are vocationally certificated. There is some question as to whether or not the middle school teacher taking over the Lab 2000 will be vocationally certified.
The Vocational Coordinator is also the Special Education Transition Coordinator. The Administrative Support teacher is vocationally certified, as is the Coordinator.

The Industrial Arts teacher has participated in the Lab Technician summer programs. Each year several vocational teachers have participated in the Vocational Conference. Outside resources (i.e., Deer Valley and Northland Pioneer College) have been used to provide training/inservice. A consultant was also hired to work with the Administrative Support program planning activities. Other inservice provided by the district has included how to work with IVEPs. Several teachers have completed or will complete by next year their ESL certification.

COMMENTS

Alchesay High School is one of the state's pioneers in using a "four period day" format, which extends classroom instruction time to 90 minutes per class each semester. Students generally like the longer period because it gives them "time to really get something done." Students are able to attain eight credits per year within this system.

Staff believe that there is a need to add more career clusters and define articulation arrangements. The Vocational Coordinator stated that it is "very difficult to keep students on track and to provide course sequences because of scheduling problems."

The district has many positive plans to further expand the Level I, II, and III programs. These plans are more extensive for some programs than for others. The advisory committee, and staff in general, seem supportive of the expansion efforts. The Administrative Support program instructor was particularly enthused about the network and learning center plans for the school/program.

While the programs are not as well articulated as might be desirable, developing a coherent sequence of instruction is being addressed and corrective actions have been identified.

ALCHESAY HIGH SCHOOL, Whiteriver Unified: Business Education—Administrative Support

Program Area and Characteristics	LEVEL I	LEVEL II	LEVEL III
I. ORGANIZATION			
1. Instruction provides:			
• an exploration/skill development for all occupations.	no		
• skill development for a cluster of related occupations.		yes	
• skill development for specific occupation(s).			yes
2. Students served:			
• 100% in the targeted grade level (7-9).	yes		
• In the targeted grade levels (9-10) have previously completed a Level I experience.		yes	
• Students have the opportunity to participate in more than one cluster, if desired.		ns	
• In the targeted grade levels (11-12) have completed Level I and II experiences.			no
3. The experience is a <u>minimum</u> of:			
• one year in length or equivalent to 225 min/week.	no	yes	
• 360 hours in length.			yes
4. The experience provides a coherent sequence of instruction:			
• required for all vocational technological programs.	yes		
• each cluster leads to at least one specific Level III experience.		yes	
• leads to employment and advanced training.			yes
5. The experience has the support of the local school/district administration.	yes	yes	yes
6. An active advisory council assists in designing and implementing this experience.	ns	yes	yes
II. CURRICULUM			
7. Curriculum is competency-based with each student's attainment of each competency monitored.	ns	yes	yes
8. Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in:			
• the draft Level I Framework.	yes		
• at least one cluster.		yes	
• specific occupation(s).			yes

Program Area and Characteristics	LEVEL		
	I	II	III
II. CURRICULUM — *continued*			
9. Curriculum includes all six of the Model "Strands."	ns	no	no
10. Curriculum provides for student leadership development, which can include the use of vocational student organizations.	ns	yes	yes
III. INSTRUCTIONAL DELIVERY			
11. The instruction provides students with experiences in:			
• a variety of occupational areas.	yes		
• occupational areas associated with the particular cluster(s).		yes	
• specific occupation(s).			yes
12. The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	yes	yes	yes
13. Students work in groups or teams frequently.	yes	yes	yes
14. Instructional activities include industry-realistic situations and materials, and are evaluated according to industry-related standards.	yes	ns	yes
15. The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	ns	ns	ns
IV. FACILITIES AND EQUIPMENT			
16. The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	yes	yes	yes
17. The environment simulates one that would be found in business and industry.	yes	yes	yes
18. The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	yes	yes	yes
V. TEACHER QUALIFICATIONS			
19. The teacher(s) are vocationally certified in:			
• vocational areas or if a team of teachers instruct the Level I experience, at least one will be vocationally certified.	ns		
• appropriate vocational areas related to the specific cluster content.		yes	
• the specific vocational area.			yes
20. The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	yes	yes	yes

Site: **DEER VALLEY VTECH CENTER, Deer Valley Unified School District**
Program: **Health Occupations—Nursing Assistant**

SETTING

Deer Valley VTech Center is one of three schools in the Deer Valley Unified District that serve students in grades 9-12. The school was selected to represent a Model-funded site in an urban area. Deer Valley's Nursing Assistant program in the Health Occupations area was selected for study. Although the district has received state funds to develop a comprehensive model (Levels I-III) in this area, the school indicated on Morrison Institute's "VTE Model Components Questionnaire" that they did not offer a "comprehensive" program because they did not consider either their Level I or Level II program to meet Model criteria.

METHOD

Information about the program was collected primarily by interviewing the program coordinator, who is also an instructors in the Nursing Assistant program. The researcher also toured the school campus and Health Occupations facility, and reviewed documents provided by the program coordinator. The researcher also had the opportunity to speak informally with several students and other teachers from the program. The interview with the program coordinator was audiotaped and transcribed. This transcript, notes, and program materials were used in writing this report.

ORGANIZATION

Level I

The district has three middle schools serving students in grades seven and eight. A Level I program is in place at each middle school, and is required for all Deer Valley students except those enrolled in band. Students must participate in "Lab 2000" and/or "Life Skills." Classes are offered in nine-week blocks. Reportedly, most students take an average of 18 weeks of instruction in life skills and nine of the technology skills. The Lab 2000 experience logically "feeds into" all technology areas at Level II and III. Life Skills is the Level I experience leading to advanced studies in Home Economics, Health Occupations, and Business Education.

Level II

The Level II course for Health Occupations — Medical Arts 1-2 — is offered to students in grades ten through twelve at both of the district's comprehensive high schools. Students are not required to have taken an exploratory Level I course, but staff report that most have completed such an experience.

The year-long course meets for one period each day. The course's main emphasis is on anatomy and physiology in health and disease, nutrition, medical terminology, and career exploration. Medical Arts falls into the Level II "Applied Biological Systems" occupational cluster defined by ADE, and participating students earn science credit for completion. The

Level II Medical Arts is *not* a prerequisite for entry into the district's Level III Health Occupations courses, but is highly recommended.

Level III

The Deer Valley VTech Center offers Health Occupations training in nursing and a number of allied health occupations. Programs on the VTech campus target students in grades eleven and twelve. The Nurse Assisting program meets for two periods each day for two semesters. The program is approved by the Arizona Nursing Consortium and Arizona Board of Nursing as a Certified Nurse Assistant program. The course offers training in basic nursing care skills, health care problems, the disease process, prevention and treatment. After the first nine weeks of instruction, students participate in a practicum at a local hospital twice a week for 27 weeks and provide direct patient care under the supervision of a registered nurse. Specific skills include emergency care, physical examinations, wound care, sterile techniques, personal hygiene, and a number of other treatments.

Local and District Support

The program coordinator reported that her principal is highly supportive of the health occupations program and vocational programs in general. Furthermore, she notes that "In reality, there's not a whole lot of people in the entire district that aren't supportive of this program." In fact, the Deer Valley Unified School District has a formal, written "Statement of Philosophy for Vocational Education" that provides evidence of the district's commitment. Moreover, plans are now underway to construct a new high school that will include a multi-million dollar "technology plaza" intended to provide "one-stop shopping" for information technology, industrial technology, life skills management, etc.

The only questionable level of support had to do with the district's school board. According to staff, support "can depend on any particular point in time" and the program has experienced "varying degrees of support" over the years.

Advisory Council

The program has an active advisory board that consists of about 20 public and private sector health care providers. The committee meets twice annually to review curriculum, materials, and resources. They provide advice on types of equipment to purchase. In addition, they come on campus to "actually do teaching segments with kids." They help identify and coordinate site placements for clinical rotations. The program coordinator feels that the Advisory Board provides outstanding support.

CURRICULUM

All courses in the Health Occupations sequence are competency-based. The Level I classes reportedly incorporate ADE curriculum and use ADE competency lists. Participating students in Level I are assessed using portfolios. The Level II Medical Arts course integrates ADE and commercial (e.g., CORD) curriculum materials in instruction. It is also competency-based, and students are assessed using performance testing and competency check lists. Level III course competencies are clearly defined and carefully recorded for

each student. Competencies are prescribed based on the requirements of an examination administered through the State Board of Nursing. Course completers are eligible to take this examination. Also, successful graduates may enter a Licensed Practical Nurse (LPN) program through an articulation agreement with Gateway Community College.

Student records for Levels II and III are kept on computer, allowing staff to track and monitor student performance. According to the program coordinator, "There'd be no way of tracking Level I, other than the fact that the students complete their seventh and eighth grade experience with Deer Valley schools."

Regarding ADE's six curriculum strands, the program coordinator notes that for Level I "there are a couple of components that need to be strengthened" and that planning is underway to do so. At Levels II and III, these strands are "interwoven" but do not drive the curriculum. At Levels II and III, student leadership development is integrated into the curriculum through participation in VICA (Vocational Industrial Clubs of America). VSOs are not currently active at the middle school level, although efforts are underway to establish them.

INSTRUCTIONAL DELIVERY

Following ADE criteria, Level I is a broad-based career exploration course, while Medical Arts (Level II) prepares students for careers in nursing and allied health occupations. Level III provides specific occupational training. All instructors manage a variety of learning experiences for students. This is apparent looking at the facilities which combine classroom and lab areas. Based on conversations with staff and students, students often work in groups and teams and have access to "industry-realistic" situations and materials. Practicum experiences and clinical rotations, including six weeks of working in a Deer Valley school nurse's office (e.g., assisting school nurses conduct screening examinations — vision, hearing, height, weight), ensure hands-on occupational experiences.

IVEP Students

In the Level II and III programs, records indicate less than one percent of ***all*** students who begin the program drop out and 88 percent are known to obtain entry-level positions or pursue postsecondary education. The program coordinator suggests that this success rate could be even higher if not for the inclusion of "heavy-duty" special education students (e.g., Downs syndrome) who comprise some 25 percent of the program's trainees. To accommodate these students, training is conducted over longer periods of time, placements tend to be in hospital service areas that do *not* provide direct patient care (e.g., food services), and students in the program work with one of the district's "Special Education Technicians."

FACILITIES AND EQUIPMENT

The facility for Health Occupations, including the Nursing assistant program, consists of a large "portable classroom" facility. There are three large classrooms, a nursing lab (with beds, etc.), a clinical lab area (with microscopes and other equipment), a physical therapy area (with mirrors, mats, parallel bars, etc.), and a fully-equipped simulated dental/doctor's office. The facility also has a kitchen area with stove and refrigerator, several restrooms,

offices, and storage areas, and open space. The facility appears extremely well-equipped for its purposes, and does simulate environments that would be found in a medical clinic, laboratory, or hospital.

According to the project coordinator, ADE funds played a considerable role in allowing the program to evolve. In particular, the coordinator said that virtually all of the facility's state of-the-art equipment was purchased through ADE grant monies. Nevertheless, the district's financial commitment to the program has also been substantial, and the coordinator says that even without ADE funds, "I think we would have found a way to develop [the program]."

TEACHER QUALIFICATIONS

Nine staff teach Level I courses in the three middle schools. All are certified in their respective areas: computer instructors are business certified; the technology teachers are industrial education certified; and the life management staff are certified in home economics. Two instructors teach the Medical Arts course, one at each high school. They are certified in science and additionally certified or endorsed in vocational education. Two registered nurses teach the Level III programs; the program coordinator is also a registered nurse. One instructor is also a certified science and physical education teacher; another is a practicing nurse practitioner in family medicine; the program coordinator is certified in rehabilitation.

Professional development activities are diverse and ongoing. There are five annual inservice days each year, in addition to conferences and seminars. Moreover, staff regularly serve on a variety of district and state committees (e.g., curriculum committees). All maintain active connections with the health care industry.

COMMENTS

Program documentation is informative, extensive, and thorough. Among the materials the evaluator had the opportunity to examine were a curriculum materials review form, competency lists, certificates of completion, advisory committee lists and committee recruitment materials, student and community "fact sheets," course syllabi, articulation agreements, the district statement of philosophy, and the "Health Occupations 5-year Plan." Based on a review of these materials and the site visit, the evaluator's overall impression of Deer Valley's Nurse Assisting program is that it provides a high quality training experience for students choosing this health occupation. Staff commitment is evident and students, although only spoken to briefly, voiced strong support for the program. The facilities are impressive.

Asked what are the key strengths of the Nursing Assistant program, the coordinator mentioned an "exceptional" teaching staff and close cooperation and coordination between each level of the curriculum. These strengths seem apparent and prompted the evaluator to question the results of the initial program survey, in which the principal responded not having a "model" Level I or Level II program.

Following ADE-criteria for a fully implemented model program, the reason that Deer Valley's Level program might not be considered a "model" is because all students might not receive a full year of instruction (or the equivalent of 225 minutes per week) and there are no guarantees that 100 percent of students in grades seven through nine will have taken a Level I course due to new students/transfers entering the district. Similarly, Level II cannot guarantee that all students will have completed a Level I program, thus excluding it from meeting "model" criteria.

Apart from these "deviations" from the ADE criteria, if "modelness" equals "quality," then Deer Valley does appear to represent a model program. The program is well organized. All instructional and curricular components are in place and aligned, accommodating the special needs of IVEP students. Facilities simulate business-industry standards, and provide students with hands-on and occupational experiences. Faculty are fully and appropriately certified for the respective levels of instruction, and there is evidence of strong local support for the program.

DEER VALLEY VTECH CENTER, Deer Valley Unified: Health Occupations—Nursing Assistant

Program Area and Characteristics	LEVEL I	LEVEL II	LEVEL III
I. ORGANIZATION			
1. Instruction provides:			
• an exploration/skill development for all occupations.	yes		
• skill development for a cluster of related occupations.		yes	
• skill development for specific occupation(s).			yes
2. Students served:			
• 100% in the targeted grade level (7-9).	no		
• In the targeted grade levels (9-10) have previously completed a Level I experience.		no	
• Students have the opportunity to participate in more than one cluster, if desired.		yes	
• In the targeted grade levels (11-12) have completed Level I and II experiences.			no
3. The experience is a <u>minimum</u> of:			
• one year in length or equivalent to 225 min/week.	yes	yes	
• 360 hours in length.			yes
4. The experience provides a coherent sequence of instruction:			
• required for all vocational technological programs.	yes		
• each cluster leads to at least one specific Level III experience.		yes	
• leads to employment and advanced training.			yes
5. The experience has the support of the local school/district administration.	yes	yes	yes
6. An active advisory council assists in designing and implementing this experience.	yes	yes	yes
II. CURRICULUM			
7. Curriculum is competency-based with each student's attainment of each competency monitored.	yes	yes	yes
8. Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in:			
• the draft Level I Framework.	yes		
• at least one cluster.		yes	
• specific occupation(s).			yes

Program Area and Characteristics	LEVEL		
	I	II	III
II. CURRICULUM — *continued*			
9. Curriculum includes all six of the Model "Strands."	yes	yes	yes
10. Curriculum provides for student leadership development, which can include the use of vocational student organizations.	no	yes	yes
III. INSTRUCTIONAL DELIVERY			
11. The instruction provides students with experiences in:			
• a variety of occupational areas.	yes		
• occupational areas associated with the particular cluster(s).		yes	
• specific occupation(s).			yes
12. The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	yes	yes	yes
13. Students work in groups or teams frequently.	yes	yes	yes
14. Instructional activities include industry-realistic situations and materials, and are evaluated according to industry-related standards.	yes	yes	yes
15. The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	yes	yes	yes
IV. FACILITIES AND EQUIPMENT			
16. The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	yes	yes	yes
17. The environment simulates one that would be found in business and industry.	yes	yes	yes
18. The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	yes	yes	yes
V. TEACHER QUALIFICATIONS			
19. The teacher(s) are vocationally certified in:			
• vocational areas or if a team of teachers instruct the Level I experience, at least one will be vocationally certified.	yes		
• appropriate vocational areas related to the specific cluster content.		yes	
• the specific vocational area.			yes
20. The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	yes	yes	yes

Site: **COCONINO HIGH SCHOOL, Flagstaff Unified School District**
Program: **Trade and Industry—Electronics**

SETTING

The Trade and Industry Electronics program at Coconino High School was selected as a rural, self-decribed "non-comprehensive" program that has received "Model site" funding from ADE for three years. The school is located in northern Arizona, Coconino County, in an area that encompasses private and government held property. It is a popular resort area with a stable school population.

METHODS

Data were collected primarily from two sources—the electronics instructor and the District Vocational Director. A tour of the facility was given by the instructor, who was also in the midst of preparation for a community open house that same day and the following evening. Documentation reviewed, but not given to the interviewer, included:

1. Course syllabi
2. District Vocational Program Guidelines/Standards
3. Instructional unit: Electricity
4. Tech Lab manuals (4)
5. Advisory Committee minutes

This report summarizes the interviews with the two parties.

ORGANIZATION

Levels I-III

The district has no Level I classes but does offer a course titled "Tech Lab" which is available to students in grades 9 and 10. It is a one-semester course in which students rotate through the various lab stations. The curriculum is matched to levels and clusters. The course is not required of all students, but is encouraged as a prerequisite to the Level II and III program. The curriculum explores manufacturing, construction and robotics.

The high school offers introductory level programs in accounting/computing occupations, administrative support, health, nursing, building trades, communication/electronics, computer electronics and auto mechanics. The district does not consider these to be Level II programs. Typical courses available include Woods, Drafting, General Business and Introduction to Electronics.

Level III programs, for students in grades 10-12, provide students with specific occupational training. The district does not consider its programs to be Level III Model programs. They offer courses in Accounting/Computing Occupations, Administrative Support, Health, Nursing, Building Trades, Comm/Electronics, Computer Electronics and Auto Mechanics.

Students are encouraged to complete two particular courses as prerequisites to the Electronics Program. They may take one semester of Tech Lab, one semester of Introduction to Electronics or a full year of Introduction to Electronics.

The electronics program utilizes self-developed materials in addition to those from the Tech Lab (Colorado) as resources. The technical manuals in use are from L. J. Technical Systems (Digiac). They are competency-based materials.

VSOs are available to students at Coconino High School. Specifically, students in the electronics program are encouraged to participate in VICA. The school also offers a cooperative education experience for those students desiring it.

Local and District Support

Staff have rated overall district support for vocational programs at 4 on a scale of 10, with 10 being high. Support for the electronics program was rated at 6. When queried about the fairly low rating, the staff expressed that "our programs do not have much priority in the district/campus. We are not seen as an integral part of the educational process."

Students and counseling staff are encouraged to develop a four-year plan for high school. These plans are not mandatory and vocational staff believe that little emphasis is given to vocational education electives and student career goals.

Advisory Council

Several campus-based curriculum committees are operational. In addition, the District has a 14 member Vocational Education Advisory Committee. The committee meets four times a year to review new programs, equipment needs, facilities and so forth. The technology classrooms at Coconino High School have been designated as a demonstration site for the district. As such, the site continues to receive support and attention from the Advisory Committee.

CURRICULUM

As noted earlier, the Technology Lab utilizes both teacher developed and commercially developed materials (L. J. Technical Systems). When asked whether or not the six strands were used, the staff indicated that they were but only as they existed in the present curriculum and instructional units. They felt that the Technology Systems materials probably exceeded the competencies contained in the ADE Competencies.

Students utilize computerized trainers; modules are self-starting and self-paced (open entry/exit). The instructor works with the special education resource class on units on electricity.

Teacher assessment of competency attainment is based on observation and performance. Competencies are measured on an individual basis as each student completes a particular project. The majority of assessment activities are centered on production using the Tech Lab work stations.

The district conducts a follow-up of completers one year after graduation. Response rates have not been particularly high, but more than half of those responding are continuing in school.

INSTRUCTIONAL DELIVERY

Instructional delivery is concentrated on individual and small group projects utilizing the Tech Lab and electronics specialized equipment. Hands-on projects and production projects are emphasized. The instructor also utilizes appropriate concepts from mathematics and science to integrate instruction.

IVEP Students

The instructor works with the resource teacher particularly on units in electricity. In addition, special needs students who may be enrolled in the electronics program are provided individual assistance as needed.

FACILITIES AND EQUIPMENT

Coconino High School is a relatively new school plant. The District has upgraded several areas in the facility, including the Technology Lab. The instructional environment in the lab easily meets or exceeds that of industry in terms of equipment. The instructor has indicated that software needs are "greater than my equipment needs." Some of the vocational areas have space needs and the Vocational Director has indicated that "we always need dollars for curriculum development efforts."

TEACHER QUALIFICATIONS

All teachers at Coconino High School teaching in vocational areas are certified with appropriate secondary and vocational endorsements.

District funds have been used to support vocational teacher participation in the Vocational Summer Conference and Curriculum Dissemination Workshops.

COMMENTS

Coconino High School has an exemplary program in the Tech Lab/electronics area. This program is not part of a comprehensive Level III program and does not meet state criteria for one. On the other hand, the electronics program has great potential to be a front runner for a Level III program. Assuming that the school is able to better define and implement a sequence of courses, it could easily become a model site in electronics.

There are some problems related to scheduling, facility upgrades in some areas, and dollars to support curriculum and professional development activities. The opportunity exists to develop more cohesive vocational programs reaching greater numbers of students.

COCONINO HIGH SCHOOL, Flagstaff Unified: Trade & Industry—Electronics

Program Area and Characteristics	LEVEL I	LEVEL II	LEVEL III
I. ORGANIZATION			
1. Instruction provides:			
• an exploration/skill development for all occupations.	no		
• skill development for a cluster of related occupations.		yes	
• skill development for specific occupation(s).			yes
2. Students served:			
• 100% in the targeted grade level (7-9).	no		
• In the targeted grade levels (9-10) have previously completed a Level I experience.		no	
• Students have the opportunity to participate in more than one cluster, if desired.		yes	
• In the targeted grade levels (11-12) have completed Level I and II experiences.			no
3. The experience is a <u>minimum</u> of:			
• one year in length or equivalent to 225 min/week.	no	ns	
• 360 hours in length.			yes
4. The experience provides a coherent sequence of instruction:			
• required for all vocational technological programs.	no		
• each cluster leads to at least one specific Level III experience.		no	
• leads to employment and advanced training.			yes
5. The experience has the support of the local school/district administration.	no	ns	yes
6. An active advisory council assists in designing and implementing this experience.	no	yes	yes
II. CURRICULUM			
7. Curriculum is competency-based with each student's attainment of each competency monitored.	no	ns	yes
8. Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in:			
• the draft Level I Framework.	no		
• at least one cluster.		no	
• specific occupation(s).			yes

Program Area and Characteristics	LEVEL		
	I	II	III
II. CURRICULUM — *continued*			
9. Curriculum includes all six of the Model "Strands."	no	no	no
10. Curriculum provides for student leadership development, which can include the use of vocational student organizations.	no	yes	yes
III. INSTRUCTIONAL DELIVERY			
11. The instruction provides students with experiences in:			
• a variety of occupational areas.	yes		
• occupational areas associated with the particular cluster(s).		yes	
• specific occupation(s).			yes
12. The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	ns	ns	yes
13. Students work in groups or teams frequently.	ns	ns	yes
14. Instructional activities include industry-realistic situations and materials, and are evaluated according to industry-related standards.	no	no	yes
15. The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	no	no	yes
IV. FACILITIES AND EQUIPMENT			
16. The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	no	yes	yes
17. The environment simulates one that would be found in business and industry.	no	yes	yes
18. The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	no	yes	yes
V. TEACHER QUALIFICATIONS			
19. The teacher(s) are vocationally certified in:			
• vocational areas or if a team of teachers instruct the Level I experience, at least one will be vocationally certified.	yes		
• appropriate vocational areas related to the specific cluster content.		yes	
• the specific vocational area.			yes
20. The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	yes	yes	yes

Site: **VALLEY UNION HIGH SCHOOL, Valley Union High School District**
Program: **Agriculture—Business and Management**

SETTING

Valley Union High School was selected to represent a self-reported "non-comprehensive" programs that received "Model site" funding for two years. The high school is located in a remote rural area of Southeastern Arizona. It has five feeder elementary schools. The entire Agriculture program (including both Ag Business and Management and Agricultural Mechanics) is taught by one instructor who has been with the district for 30+ years.

METHOD

This report is based on data collected via an interview with the agriculture teacher, a tour of the facility, and documents provided by the instructor. A brief, informal interview was held with the principal after the interview with the teacher. Most of the information in this report was provided by the agriculture teacher.

ORGANIZATION

Level I

A Level I program is not offered at the school. Site staff believe that a Level 1 course should be available to students in the eighth grade. The elementary schools feeding Valley Union High are very small, however, sending between eight and 29 students to Valley Union each year. Their limited budgets restrict program development and inhibit their ability to fund additional faculty to teach a Level 1 course. Furthermore, collaborative mechanisms do not exist either among elementary schools or between the elementary schools and Valley Union.

Level II

The Level II component of the program at this site is comprised of the two introductory courses, Vocational Agriculture I and Vocational Agriculture II. These courses provide a basic introduction to plant and animal science and are considered core curriculum for any student pursuing a program in agriculture. These are one year courses offered as electives available to any student in grades 9 through 12. Most students take the courses in the ninth and tenth grades. Vocational Agriculture I and II are prerequisites for Vocational Agriculture III and IV.

Level III

Vocational Agriculture III and IV comprise the Level III program at Valley Union High School. The Agricultural Mechanics program is incorporated in these courses. These are one year courses offered in alternate years. Classes are small, allowing for highly individualized instruction. Many students participate in a Supervised Occupational Experience (S.O.E.). Limited work experience opportunities in this geographical region mean that most students participate in S.O.E.s on weekends and during the summer.

Students may prepare livestock for the county fair, for example, as part of a qualified S.O.E. The S.O.E.s are coordinated by the agriculture teacher, who is a 12-month employee of the school district.

Local and District Support

The teacher ranked district support on a scale of one to ten as a "10" (with 10 being high). He said: "I've never really been turned down flat for anything....The Board is really supportive."

Advisory Council

Because of the small size of the school and the surrounding community, the advisory group for agriculture is the same as the school district's advisory group. It is made up of local business people (mostly ranchers and farmers), a teacher, and parents. The group acts as a sounding board for community and school concerns. The group is not actively involved in vocational education issues.

CURRICULUM

When asked about the ADE curriculum strands, the teacher responded, "I've been using what we developed, which is an Agriculture core curriculum. I don't know if it fits in with the strands or not. It's the core curriculum that was developed by the state department....That's what I use."

Although he utilizes the state's core curriculum, he also stated that he felt that, even though the state was attempting to "standardize everybody," he believed that local curriculum needs must still be addressed and that the state's program "could not replace all that." However, he did see the value in common curriculum as well: "But there are things they ought to know wherever they (students) are. Because they won't stay here."

The instructor provided a checklist, the Vocational Agriculture Core Curriculum Occupational Readiness Record, which illustrates the scope of the core curriculum.

Pretesting and posttesting are administered to all Agriculture students to measure growth in academic skills. The test addresses basic reading and mathematics skills. In regard to occupational competencies, the teacher said: "I guess I evaluate them myself. We had a checklist, that wasn't consistent either. So I just, more or less, some of these competencies, if they can do it, I just evaluate it in my head. I don't keep a written record."

The teacher bases student grading predominantly on his own judgment of their progress and puts little weight on the results of the pretesting and posttesting. The test was developed in the Mesa School District. Scores were used for completion of the Performance Standards Report. The teacher spoke of the value of the test results: "It (the test) would not determine whether they pass or fail."

INSTRUCTIONAL DELIVERY

The instructional delivery system varies with the unit of instruction. More traditional classroom methods are used when topics such as parliamentary procedure are introduced. By way of contrast, instruction of such subjects as computerized recordkeeping and introductory accounting is more individualized. The balance of the instruction is project-oriented. Students, depending on their level of competence, may work either individually or in groups.

Many of the units are taught hand-in-hand with the students' involvement in FFA, which affords them the opportunity to work on local farms and ranches as well as at the school site. At the time of observations for this report, students were constructing their own greenhouse as part of their program. The teacher stated that he uses FFA as "an incentive for a lot of our classroom work, especially leadership, public speaking...I found that those who are not active in the FFA don't get the full benefit of the Ag. program. They can't see the depth of it."

The FFA chapter at Valley Union has produced several state officers. Many of the Valley Union FFA members have won state awards in public speaking. Close to 100% of the Agriculture students participate in FFA, and many stay involved after graduation. Part of the Ag. I curriculum is dedicated to FFA topics including FFA Organization, Public Speaking, and Parliamentary Procedure.

IVEP Students

Some of the IVEP students enrolled in this program, particularly LEP students, are assisted by a school district aide. Those with reading difficulties may be given more time to complete some projects. The teacher collaborates with the special education instructors on a regular basis. Although he may adjust standards for IVEP students, the instructor said "I don't lower the expectations." Because of the hands-on nature of the classes, IVEP students have considerable success in this program. IVEP students are expected to take the same tests as all other students.

FACILITIES AND EQUIPMENT

Program facilities are identified as one of the program's major strengths. The facility is comprised of a classroom with approximately 18 computer stations that are linked into the school network. Students are exposed to much of the business aspect of agri-business through this computer network. This laboratory was funded by an ADE grant. Although the up-to-date technology was appreciated by both the district and the teacher, it was also viewed by the Agriculture teacher as a "burden" because of the increased demands it made on him to learn the technology. "I had to do a lot of learning too." As the sole instructor of the agriculture programs, his efforts to stay current are limited by the free time he has available. The movement toward scientifically based programs, i.e., the biological systems approach to agriculture, has also placed new demands on this teacher of 30 years.

Some frustration was expressed that the ADE grant for equipment acquisition was not accompanied by more technical support. The instructor felt that the school's relative lack of technical expertise led them to purchase some things they did not need and to overlook some that they did.

In addition to the computer lab, facilities at Valley Union include a large work station area where students have access to numerous types of welding equipment.

TEACHER QUALIFICATIONS

The teacher is a certified Vocational Agriculture teacher. He participates regularly in state-sponsored training related to agriculture education. The district has limited professional development programs, offering none during the 1993-94 school year. He is given released time in the summer to attend workshops, particularly at the University of Arizona. He described the programs at this univeristy as "excellent."

COMMENTS

Multiple factors come into play when considering this district's inability to implement a more comprehensive program in Agriculture—Business Management. The most salient point seems to be the lack of available professional development time for the instructor. The instructor is the sole teacher in the department and has no Vocational Director (the principal is the director in title but not function). He is responsible not only for teaching all sections of Agriculture, but also for heading the FFA, coordinating the Supervised Occupational Experiences, writing the curriculum, completing the Performance Standards reports, and so on.

Another factor limiting the district is the lack of district influence over decisions made at the feeder elementary schools. Without district influence, elementary schools are unlikely to develop Level 1 programs. Valley's Level II program is somewhat representative of the cluster concept expected by ADE. However, there are some limitations that have prohibited the full development of a Level II program.

In sum, there seem to be expectations to implement a comprehensive program, yet barriers that individuals and districts face to meet these expectations have not been fully addressed.

VALLEY UNION HIGH SCHOOL, Valley UHSD: Agriculture—Business & Management

Program Area and Characteristics	LEVEL I	LEVEL II	LEVEL III
I. ORGANIZATION			
1. Instruction provides:			
• an exploration/skill development for all occupations.	no		
• skill development for a cluster of related occupations.		no	
• skill development for specific occupation(s).			yes
2. Students served:			
• 100% in the targeted grade level (7-9).	no		
• In the targeted grade levels (9-10) have previously completed a Level I experience.		no	
• Students have the opportunity to participate in more than one cluster, if desired.		ns	
• In the targeted grade levels (11-12) have completed Level I and II experiences.			yes
3. The experience is a <u>minimum</u> of:			
• one year in length or equivalent to 225 min/week.	no	yes	
• 360 hours in length.			yes
4. The experience provides a coherent sequence of instruction:			
• required for all vocational technological programs.	no		
• each cluster leads to at least one specific Level III experience.		yes	
• leads to employment and advanced training.			yes
5. The experience has the support of the local school/district administration.	no	yes	yes
6. An active advisory council assists in designing and implementing this experience.	no	no	no
II. CURRICULUM			
7. Curriculum is competency-based with each student's attainment of each competency monitored.	no	ns	ns
8. Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in:			
• the draft Level I Framework.	no		
• at least one cluster.		yes	
• specific occupation(s).			yes

Program Area and Characteristics	LEVEL I	LEVEL II	LEVEL III
II. CURRICULUM — *continued*			
9. Curriculum includes all six of the Model "Strands."	no	no	no
10. Curriculum provides for student leadership development, which can include the use of vocational student organizations.	no	yes	yes
III. INSTRUCTIONAL DELIVERY			
11. The instruction provides students with experiences in:			
• a variety of occupational areas.	no		
• occupational areas associated with the particular cluster(s).		yes	
• specific occupation(s).			yes
12. The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	no	yes	yes
13. Students work in groups or teams frequently.	no	yes	yes
14. Instructional activities include industry-realistic situations and materials, and are evaluated according to industry-related standards.	no	ns	yes
15. The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	no	yes	yes
IV. FACILITIES AND EQUIPMENT			
16. The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	no	yes	yes
17. The environment simulates one that would be found in business and industry.	no	yes	yes
18. The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	no	no	no
V. TEACHER QUALIFICATIONS			
19. The teacher(s) are vocationally certified in:			
• vocational areas or if a team of teachers instruct the Level I experience, at least one will be vocationally certified.	no		
• appropriate vocational areas related to the specific cluster content.		yes	
• the specific vocational area.			yes
20. The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	no	yes	yes

Site: **KOFA HIGH SCHOOL, Yuma Union High School District**
Program: **Trade and Industry—Drafting**

SETTING

The drafting program at Kofa High School was selected as representative of a Trades and Industry program at an urban/metropolitan, self-decribed "non-comprehensive site," that has never received additional state "Model site" funding. Kofa is one of four schools in the Yuma Union High School District.

METHOD

Data collection was accomplished through an audiotaped interview with the district Vocational Education Director and the District Curriculum Coordinator and an audiotaped interview with the drafting teacher. The researcher also videotaped a tour of facilities taken with the drafting teacher. Program documents were provided by the Vocational Director and the instructor.

ORGANIZATION

Level I

An introductory course titled Exploratory Technology is offered to students at Kofa. This course provides instruction for one quarter in each of the following: drafting, woodworking, metalworking and electronics. This course does not meet ADE Level 1 criteria.

The district is working towards the creation of articulated Level 1 programs in junior high schools feeding Kofa. With facilitation provided by the district, communication and articulation between elementary and high school districts has begun. The district vocational director acknowledges "it's a slow process; it's not something we just walk in and do overnight....Our dream is to have the junior highs prep these kids; they come in to ours in the ninth grade and we move them on. Right now we have some duplication of effort." Some, he says, are "in the breadbox mode and some are into high tech." Implementing the "Lab 2000" concept in feeder schools, he felt, "would prepare them (students) to come into our technical areas."

Concern was expressed that the fiscal process, which channels funding through the high schools to the feeder schools, has made the development of Level 1 programs more cumbersome. Cooperation and communication among schools has improved, but funding remains a barrier to future expansion.

Level II

Level II, at this site, is typically defined across most of the vocational areas as the first course in the sequence, i.e., Construction Trades I, Building Trades I, Automotive Technology I, and so on. Drafting Technology I is the first course in a two-year sequence, and is considered the Level II course in the drafting area. Courses at this level are

described as the "prep" courses which "get kids ready for the Tech (Level III)." The exploratory course "flows into Drafting I and Drafting I flows into Drafting II." To explore multiple areas, students must enroll in a variety of year-long courses. The instruction is neither clustered nor exploratory.

Level III

Level III consists of courses that provide students with advanced level training in specific occupational areas. Drafting Technology II is the Level III course in drafting. The course description describes the course as "a study of advanced drafting practices...." The course is an extension of its Level II prerequisite, Drafting Technology I.

Local and District Support

The district Curriculum Coordinator described herself as a "sounding board" who influences coordination and communication among the curricular areas. She is the one who monitors the "big picture." Those who are heads of the specialty areas (e.g., special education, vocational education, Chapter I) are called "facilitators." The vocational facilitator described his relationship with the district as very positive (a "10" on a scale of 1 to 10 with 10 being high). "We're allowed the flexibility to create," he reported. He indicated that the relationship with the school board is positive; two board members are involved in the Performance Standards evaluation team. Efforts have been made at the building level to improve communication among principals regarding the different programs offered at each of the different high schools. The vocational facilitator described the principals as "supportive".

Advisory Council

The drafting advisory committee is district-wide and includes membership from business, industry and education. Educators from public schools and from Arizona Western College are involved. Any proposed curriculum or equipment changes are first examined by the advisory committee. The committee is very active both instrumentally and politically. They are advocates for the vocational program in the school and in the community.

CURRICULUM

VSOs are not an established part of the curriculum and student participation in programs such as VICA, FFA, HERO and FBLA is voluntary. They are, however, considered to be vehicles for teaching ADE "curriculum strands".

All courses have a written scope and sequence. Competency indicators for Drafting Technology I (Level II) and Drafting Technology II (Level III) were provided as examples of the scope and sequence for these courses. Records are kept on each student. Teacher discretion prevails in determining appropriate methods and standards of assessment for individual students. Additionally, district staff are working to integrate academic and vocational instruction in a curriculum designed to support six high school exit skills which are consistent with state *Essential Skills*. Over the next four years, plans are to determine the linkages among subject areas (e.g., the commonalities in language arts, social studies, mathematics, and technology) and to develop more integrated methods of assessment of

those skills across areas. They hope to minimize duplication and streamline instructional and assessment procedures. In addition, the local school board is currently considering awarding academic credit for some vocational courses.

The ability of staff to incorporate a career development component of curriculum is restricted by two factors. First, the geographical location of this school limits students' access to industry-based experience. Second, programs available at Arizona Western College are limited in scope.

INSTRUCTIONAL DELIVERY

The vocational director described the drafting instructor as outstanding, with in-depth industry knowledge. He recently received a state award for teaching excellence. Working with limited facilities, he has developed a well-funded program, utilizing his close contacts with local industry to design and implement curriculum. The district vocational director noted "it's only a small room. He can put a gallon in a quart jar." Classroom observation revealed that students' work is primarily project-oriented.

IVEP Students

Services for IVEP students are coordinated through the vocational coordinator with facilitators from other areas such as Migrant Education, Special Education, and Guidance and Counseling. In relation to measurement of competency for IVEP students, the director stated that "we strive to have every student obtain these competencies....We adjust how we teach them. Every child can succeed."

FACILITIES AND EQUIPMENT

The vocational director describes equipment as satisfactory, but the facility as very limited. The school's limited supply of computers are of varying age and capacity, causing instructional difficulties. The entire Drafting Technology program is housed in one small classroom with computer stations around the perimeter of the room and drafting tables in the center. An effort is being made to pass a bond issue which will provide for a new technology that should solve the current facility constraints.

TEACHER QUALIFICATIONS

The drafting instructor is fully certified in his instructional area and has extensive industry-relevant work experience. The district and the vocational director encourage all teachers to participate in state-sponsored workshops and institutes. Teachers are much more amenable to attending training during the school year but are less likely to participate during the summer. Many are in college courses that conflict with summer inservice opportunities. The district offers regular professional development activities on topics such as stress management, wellness, and Spanish.

COMMENTS

The Kofa program has substantial support at the district and community level. However, funding from the state directly to the feeder districts could help facilitate the development of a Level I program. Their Level II programs are specialized introductory courses rather than exploratory clusters. These courses are limited to specific subject areas. In this regard, the district programs do not follow the suggested ADE criteria for Level II. Both Levels I and II, as currently conceptualized by the vocational coordinator and the high school teacher, are introductory or preparatory courses for Level III.

KOFA HIGH SCHOOL, Yuma UHSD: Trade & Industry—Drafting

Program Area and Characteristics	LEVEL		
	I	II	III
I. ORGANIZATION			
1. Instruction provides:			
• an exploration/skill development for all occupations.	no		
• skill development for a cluster of related occupations.		no	
• skill development for specific occupation(s).			yes
2. Students served:			
• 100% in the targeted grade level (7-9).	no		
• In the targeted grade levels (9-10) have previously completed a Level I experience.		no	
• Students have the opportunity to participate in more than one cluster, if desired.		yes	
• In the targeted grade levels (11-12) have completed Level I and II experiences.			no
3. The experience is a <u>minimum</u> of:			
• one year in length or equivalent to 225 min/week.	no	yes	
• 360 hours in length.			yes
4. The experience provides a coherent sequence of instruction:			
• required for all vocational technological programs.	no		
• each cluster leads to at least one specific Level III experience.		yes	
• leads to employment and advanced training.			yes
5. The experience has the support of the local school/district administration.	yes	yes	yes
6. An active advisory council assists in designing and implementing this experience.	no	yes	yes
II. CURRICULUM			
7. Curriculum is competency-based with each student's attainment of each competency monitored.	ns	yes	yes
8. Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in:			
• the draft Level I Framework.	no		
• at least one cluster.		yes	
• specific occupation(s).			yes

Program Area and Characteristics	LEVEL		
	I	II	III
II. CURRICULUM — *continued*			
9. Curriculum includes all six of the Model "Strands."	no	no	no
10. Curriculum provides for student leadership development, which can include the use of vocational student organizations.	no	yes	yes
III. INSTRUCTIONAL DELIVERY			
11. The instruction provides students with experiences in:			
• a variety of occupational areas.	no		
• occupational areas associated with the particular cluster(s).		no	
• specific occupation(s).			yes
12. The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	yes	yes	yes
13. Students work in groups or teams frequently.	yes	ns	yes
14. Instructional activities include industry-realistic situations and materials, and are evaluated according to industry-related standards.	ns	no	no
15. The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	ns	ns	yes
IV. FACILITIES AND EQUIPMENT			
16. The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	yes	no	no
17. The environment simulates one that would be found in business and industry.	ns	no	no
18. The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	ns	yes	yes
V. TEACHER QUALIFICATIONS			
19. The teacher(s) are vocationally certified in:			
• vocational areas or if a team of teachers instruct the Level I experience, at least one will be vocationally certified.	no		
• appropriate vocational areas related to the specific cluster content.		yes	
• the specific vocational area.			yes
20. The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	yes	yes	yes

Site: **APACHE JUNCTION HIGH SCHOOL, Apache Junction Unified School District**
Program: **Home Economics—Food Production**

SETTING

Home Economics programs at Apache Junction High School were selected to represent a non-comprehensive, non-funded program. The high school is located in Pinal County in an area that is designated as rural but abuts the larger community of Mesa to the west. It also is located in an area that is at the county line between Maricopa and Pinal County. The area has a high winter visitor population, but a fairly stable school population.

METHOD

Staff interviews were the primary data-collection method. A comprehensive interview was held with the District Vocational Coordinator. Less extensive interviews were also held with the Home Economics and Business Education teachers, the instructional aide and the school principal. A tour of the facility was provided by the Vocational Coordinator.

Documentation provided for review, but not given to the interviewer, included:

1. District curriculum guides
2. Board Policy Statement/Vocational Education
3. Course description booklet
4. SIMS (instructional management system)
5. Articulation Committee minutes

This report summarizes the interviews, tour and documentation materials.

ORGANIZATION

Levels I-III

The district does not consider that any of its programs meet the ADE criterion as a Level I program. It does have "bits and pieces" in place through several courses, including home economics, success skills and shop.

A one-semester course titled "Success Skills" is required for students in ninth grade. The district plans to have this course become a requirement for students in grades 7-8 as well. It presently utilizes four of the six ADE model strands (thinking skills, career development, life management and applied academics) and is taught by a vocationally certificated teacher.

Level II programs are not offered at Apache Junction. Rather, separate courses more traditional in nature are offered. They include Home Economics (Foods 1 and2), Housing and Interior Design, Human Relations (1 and 2), Child Development (1 and 2) and Fashion and Fabric. These courses are one semester in length.

Level III programs meeting ADE criteria are offered in Accounting/Computing, Administrative Support, Food Production Management, Carpentry, Auto Mechanics, Drafting, and Welding. In the Home Economics program, there are several classrooms which are traditional, but have computers available. The Foods area is fairly well equipped.

VSOs are available to provide leadership opportunities for vocational students, including FBLA, DECA, STRIVE and a COE club. Other growth experiences are provided through field visits and visiting lecturers.

The programs utilize career files and the SIMS reporting system. This system provides a printout of attained competencies. The district conducts a student follow up by using a checklist with last known address as the point of contact. Follow-up is conducted early in December, followed by a second contact in February and a telephone follow-up in April.

Local and District Support

District support for vocational programs was rated at 7-8 on a scale of 10 with 10 being highest. The staff expressed that there was a high level of external influences (politics) that affect the attitude toward vocational education. There was also some concern that the district "can't keep up with changes and teachers are bogged down with paperwork." There is a board policy statement regarding vocational education.

Advisory Council

There is an overall District Advisory Committee for vocational education. The committee meets four times a year, sometimes more. There is broad representation from the community and an average of eight to nine persons attend meetings regularly. District representatives feel that there is strong commitment from the advisory committee members.

In addition to the advisory committee, the district has a consultant contract for technical assistance from an external consultant. The district also participates in articulation committees with Central Arizona College and is part of the EVIT Tech Prep consortium.

CURRICULUM

The Apache Junction district has curriculum guides and course outlines on file for its various programs. There is an ongoing effort in curriculum development. All vocational grants have provisions for a one-half day substitute teacher for each VTE teacher to allow them to attend inservice and/or to work on curriculum development.

Level III programs are offered on a semester-long or year-long basis. Some programs are available on a double block-time schedule, particularly in the Trade and Industry areas and Business. No block time scheduling is available in the Home Economics program.

ADE competency lists and teacher-designated competencies are written for all vocational students. Teacher-designed testing is used as the primary measurement of competency. Individual competency attainment records are maintained on the SIMS system. Progress is also monitored in a follow-up of program completers one year after graduation.

INSTRUCTIONAL DELIVERY

The majority of competency-attainment activities are completed in the classroom setting. Some students participate in on-the-job cooperative programs. This is not true of the Home Economics program in which all instruction is classroom based. The classrooms have limited industry standard equipment.

The ADE strands are used and incorporated into the instruction, particularly career planning and cooperative learning activities stressing leadership and decision making. All of the essential skills materials have been developed. The district is presently writing business management into finance and computer technology, which will be matched to ASAP assessment and tracked back into the SIMS system. Emphasis in the district programs is on competencies, not courses.

IVEP Students

In the Level III programs, including Home Economics, students may demonstrate out of skills contained in the "Success Skills" course which is a prerequisite. IVEP students are provided alternative competency requirements when necessary. Student progress and attainment is tracked through the SIMS program.

FACILITIES AND EQUIPMENT

The Home Economics classrooms are fairly traditional. There are two computers, cutting tabletops, six cooking stations, a microwave and electric stove, standard refrigerator and washer/dryer. It is a multi-purpose facility in that the room provides for many activities to be occurring simultaneously. It does not reflect industry standards.

TEACHER QUALIFICATIONS

All teachers in the Level III programs are vocationally certified. Vocational teachers in the district are provided support to attend the Vocational Summer Conference, state workshops and, in the case of Home Economics, the STRIVE activities. One teacher is currently involved in completing a Master's program. All vocational teachers have technical assistance available from an external consultant.

COMMENTS

The district considers its Home Economics program to be a "Model" Level III program, but it does not meet ADE standards in terms of being industry-current within its facility. The curriculum materials being used do incorporate ADE competencies and strands. There is no advisory committee for the program, other than the district over-all committee. The district meets most of the criteria for a Level III program and could easily be upgraded to completely meet that criteria. The Vocational Director has indicated that there is a continuous problem with funding and the ability to keep up with change. On the other hand, there is a strong commitment to do better and a high teacher interest in maintaining strong programs. The director stated that "ADE should decide on program costs and allocate dollars based on pre-determined costs." The director further noted that "ADE lacks employment data and cannot give good direction to the program(s)".

APACHE JUNCTION HS, Apache Junction Unified: Home Economics—Food Preparation

Program Area and Characteristics	LEVEL I	LEVEL II	LEVEL III
I. ORGANIZATION			
1. Instruction provides:			
• an exploration/skill development for all occupations.	yes		
• skill development for a cluster of related occupations.		no	
• skill development for specific occupation(s).			yes
2. Students served:			
• 100% in the targeted grade level (7-9).	yes		
• In the targeted grade levels (9-10) have previously completed a Level I experience.		yes	
• Students have the opportunity to participate in more than one cluster, if desired.		yes	
• In the targeted grade levels (11-12) have completed Level I and II experiences.			no
3. The experience is a <u>minimum</u> of:			
• one year in length or equivalent to 225 min/week.	no	no	
• 360 hours in length.			yes
4. The experience provides a coherent sequence of instruction:			
• required for all vocational technological programs.	no		
• each cluster leads to at least one specific Level III experience.		no	
• leads to employment and advanced training.			yes
5. The experience has the support of the local school/district administration.	yes	yes	yes
6. An active advisory council assists in designing and implementing this experience.	ns	yes	yes
II. CURRICULUM			
7. Curriculum is competency-based with each student's attainment of each competency monitored.	no	yes	yes
8. Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in:			
• the draft Level I Framework.	no		
• at least one cluster.		no	
• specific occupation(s).			yes

Program Area and Characteristics	LEVEL		
	I	II	III
II. CURRICULUM — *continued*			
9. Curriculum includes all six of the Model "Strands."	no	no	no
10. Curriculum provides for student leadership development, which can include the use of vocational student organizations.	no	yes	yes
III. INSTRUCTIONAL DELIVERY			
11. The instruction provides students with experiences in:			
• a variety of occupational areas.	no		
• occupational areas associated with the particular cluster(s).		no	
• specific occupation(s).			yes
12. The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	yes	yes	yes
13. Students work in groups or teams frequently.	yes	yes	yes
14. Instructional activities include industry-realistic situations and materials, and are evaluated according to industry-related standards.	no	no	no
15. The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	no	ns	yes
IV. FACILITIES AND EQUIPMENT			
16. The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	no	no	no
17. The environment simulates one that would be found in business and industry.	no	no	no
18. The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	no	no	no
V. TEACHER QUALIFICATIONS			
19. The teacher(s) are vocationally certified in:			
• vocational areas or if a team of teachers instruct the Level I experience, at least one will be vocationally certified.	yes		
• appropriate vocational areas related to the specific cluster content.		yes	
• the specific vocational area.			yes
20. The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	yes	yes	yes

Site: Holbrook High School, Holbrook Unified School District
Program: Business—Administrative Support

SETTING

Holbrook High School is located in a unified school district in the north east part of Arizona in Navajo County. It was selected as representative of a rural, reservation school offering a self-described "non-comprehensive" vocational program that has never received ADE "Model site" funding. The district has had a Vocational Director for the past two years. This person has resigned effective with the end of the school year to move to a metropolitan area. Two teachers work with the business program.

METHOD

Staff interviews, including the Vocational Director and one of the two teachers, were conducted and a tour of the facility was completed. Other vocational teachers were interviewed in a group setting. Conversations were also held with several vocational students. Documentation shown but not given to the interviewer, included the following:

1. Class/course schedule
2. Course outline
3. District Performance Standards Review document

ORGANIZATION

Levels I-III

Level I programs are not available in this district. Occupational clusters are addressed through a variety of vocational programs in Level II. These include Business Management Technology, Human Services and Industrial Technology. Programs offered included Accounting/Computing Occupations, Administrative Support, Carpentry, Building Trades, Graphics and Welding. These programs are also offered at Level III (grades 10-12) to provide specific vocational training. Level II programs (grades 9-11) were also offered in Auto Mechanics, General Marketing, Child Care, Clothing/Apparel, Agriculture Business Management and Electricity. Level II and Level III programs are year-long programs. Level II courses are considered preparatory. Completion of a Level 11 course is not always a prerequisite for registration in a Level III program.

Local and District Support

There was generally strong overall community support for vocational programs. Board and administration support levels were rated at 8-9 on a scale of 10 (with 10 being high). Vocational teachers indicated that they felt students would be interested in more vocational classes but they were unable to provide them because of funding and/or space restrictions. Teachers were not satisfied that the employment needs in the community were being met by the present programs.

Students also expressed the desire for additional programs, particularly in the areas of aviation, careers, computer technology, entrepreneurship, medical and on the job training. Students were generally satisfied with their programs and teachers, but not satisfied with books, tools and equipment.

Advisory Council

The Vocational Director has established an overall Advisory Committee. The committee has worked with the Standards Review and new program presentations. Several members of the committee have been guest speakers in vocational classes.

Holbrook High School also participates on a Joint Curriculum Planning Committee with the community college district and has developed written articulation agreements with the district.

CURRICULUM

The curriculum guides and student enrollment handbooks indicate that vocational programs are available to all students. Provisions were made to accommodate IVEP students. The curriculum in Level II and III programs utilized ADE curriculum guides as available and teacher-selected information. While some work had been done in incorporating the strands, these efforts were not as far along as might be desired. The Vocational Director indicated that she felt more effort would be directed toward incorporating the strands into the curriculum as the articulation agreements were developed.

VICA, STRIVE and FBLA are available to students to participate in leadership and competitive activities.

ADE competencies are in use in the Level II and III programs, most notably in the Administrative Support Program. A project-based approach is used and students are encouraged to work at their own pace as much as possible. Some opportunity exists for students to develop self-initiated projects.

Students are monitored and evaluated by teachers. The district completes a follow-up one year after graduation. Informal discussions also provide some follow-up information, particularly of students who are still in Holbrook or nearby communities.

INSTRUCTIONAL DELIVERY

Hands-on, project-based activities are provided to students. In the shop areas (i.e. Automotives), community-based projects were in process. In the Administrative Support Program, instructional emphasis was on decision-making and performance standards.

IVEP Students

Instruction is designed to accommodate students through the IVEP. Students are not singled out, but are encouraged to work to the best of their ability. Tracking and performance testing is designed to accommodate their individual handicaps.

FACILITIES AND EQUIPMENT

The facilities at Holbrook High School are, for the most part, older facilities in need of updating. A MacIntosh lab is used as a general computer laboratory and may be utilized in many vocational programs. It is not designated for vocational programs and was not funded by vocational dollars. It is one of the better classrooms in terms of industry standard equipment. The Administrative Support and Accounting areas are fairly well equipped and lighting in these areas has been upgraded. The remaining Trade and Industry labs (with the exception of Building Trades) are located in older facilities in need of housekeeping and general upgrading. Floor space is small and adjacent classroom areas are not easily accessible.

TEACHER QUALIFICATIONS

All teachers involved with the vocational programs are certified and have appropriate endorsements for vocational specialties.

Teachers are provided assistance in attending the Vocational Conference and curriculum dissemination workshops and in making visits to other schools in the area. District inservice, through the Vocational Director, has included competency development, testing and grading practices and integrated curriculum concerns.

COMMENTS

Holbrook High School is in a period of transition. Several long-time teachers have retired and/or will retire next year. The Vocational Director has resigned and will be replaced. Program development in the Level I area has not yet been addressed. Several more traditional vocational programs are being offered and slow progress has been made in incorporating the strands into the curriculum. ADE curriculum is being used in conjunction with teacher-selected activities. An advisory committee is functioning for the Automotive program, and the Administrative Support program appears to have good rapport with the community. Articulation efforts are underway, particularly in the Trade and Industry area. Additionally, "crosswalks" between business classes are being developed. Teachers are not satisfied with the occupational outcomes of the programs and recognize that there is a need to update both the program and the equipment. These changes are coming about slowly, largely because of funding and facility restrictions.

HOLBROOK HIGH SCHOOL, Holbrook Unified: Business Education—Administrative Support

Program Area and Characteristics	LEVEL		
	I	II	III
I. ORGANIZATION			
1. Instruction provides:			
• an exploration/skill development for all occupations.	no		
• skill development for a cluster of related occupations.		yes	
• skill development for specific occupation(s).			yes
2. Students served:			
• 100% in the targeted grade level (7-9).	no		
• In the targeted grade levels (9-10) have previously completed a Level I experience.		no	
• Students have the opportunity to participate in more than one cluster, if desired.		ns	
• In the targeted grade levels (11-12) have completed Level I and II experiences.			yes
3. The experience is a minimum of:			
• one year in length or equivalent to 225 min/week.	no	yes	
• 360 hours in length.			yes
4. The experience provides a coherent sequence of instruction:			
• required for all vocational technological programs.	no		
• each cluster leads to at least one specific Level III experience.		yes	
• leads to employment and advanced training.			yes
5. The experience has the support of the local school/district administration.	no	yes	yes
6. An active advisory council assists in designing and implementing this experience.	no	yes	yes
II. CURRICULUM			
7. Curriculum is competency-based with each student's attainment of each competency monitored.	no	yes	yes
8. Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in:			
• the draft Level I Framework.	no		
• at least one cluster.		yes	
• specific occupation(s).			yes

Program Area and Characteristics	LEVEL		
	I	II	III
II. CURRICULUM — *continued*			
9. Curriculum includes all six of the Model "Strands."	no	no	no
10. Curriculum provides for student leadership development, which can include the use of vocational student organizations.	no	yes	yes
III. INSTRUCTIONAL DELIVERY			
11. The instruction provides students with experiences in:			
• a variety of occupational areas.	no		
• occupational areas associated with the particular cluster(s).		yes	
• specific occupation(s).			yes
12. The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	no	yes	yes
13. Students work in groups or teams frequently.	no	yes	yes
14. Instructional activities include industry-realistic situations and materials, and are evaluated according to industry-related standards.	no	ns	yes
15. The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	no	ns	ns
IV. FACILITIES AND EQUIPMENT			
16. The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	no	no	yes
17. The environment simulates one that would be found in business and industry.	no	yes	yes
18. The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	no	yes	yes
V. TEACHER QUALIFICATIONS			
19. The teacher(s) are vocationally certified in:			
• vocational areas or if a team of teachers instruct the Level I experience, at least one will be vocationally certified.	no		
• appropriate vocational areas related to the specific cluster content.		yes	
• the specific vocational area.			yes
20. The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	no	yes	yes

APPENDIX C

Site Visit Comparisons on Program Characteristics

This appendix contains data used in preparing the analyses of site visits by schools, Model level, and program type (comprehensive versus non-comprehensive; Model-funded and not Model-funded).

- Tables C-1 through C-3 show site visit results on unique program characteristics by level for all 12 schools.
- Tables C-4 through C-6 show site visit results on shared program characteristics by level for all 12 schools.
- Tables C-7 through C-9 show site visit comparisons between comprehensive and non-comprehensive sites for Levels I-III on unique program characteristics.
- Tables C-10 through C-12 show site visit comparisons between comprehensive and non-comprehensive sites for Levels I-III on shared program characteristics.
- Tables C-13 through C-15 show site visit comparisons between Model-funded and non-Model-funded sites for Levels I-III on unique program characteristics.
- Tables C-16 through C-18 show site visit comparisons between Model-funded and non-Model-funded sites for Levels I-III on shared program characteristics.

Table C-1.

The Arizona Model for Vocational Technological Education
Site Analysis on Unique Program Characteristics: LEVEL I

	Comprehensive Programs						Non-Comprehensive Programs					
	ADE-funded			Nonfunded			ADE-funded			Nonfunded		
	1	2	3	4	5	6	7[a]	8[b]	9[c]	10[b]	11[a]	12[c]
Organization (1) Instruction provides an exploration/skill development for all occupations.	yes	yes	yes	no	no	no	yes	no	no	no	yes	no
Organization (2) Students served: 100% in the targeted grade level (7-9).	no	no	no	no	yes	yes	no	no	no	no	yes	no
Organization (3) The experience is a minimum of one year in length or equivalent to 225 min/week.	yes	yes	yes	no	no	no	yes	no	no	no	no	no
Organization (4) The experience provides a coherent sequence of instruction required for all vocational technological programs.	no	no	no	no	no	yes	yes	no	no	no	no	no
Curriculum (8) Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in the draft Level I Framework.	ns	yes	yes	no	ns	yes	yes	no	no	no	no	no
Instructional Delivery (11) The instruction provides students with experience in a variety of occupational areas.	yes	yes	yes	no	yes	yes	yes	yes	no	no	no	no
Teacher Qualifications (19) The teacher(s) are vocationally certified in vocational areas or if a team of teachers instruct the Level I experience, at least one will be vocationally certified.	ns	yes	yes	no	yes	ns	yes	yes	no	no	yes	no

a = Does have a Level I program (self-reported as not in compliance with ADE criteria)
b = Does have a district-defined exploratory course/program (self-reported as not in compliance with ADE criteria)
c = Does *not* have a Level I program or district-defined exploratory course/program

Table C-2.

The Arizona Model for Vocational Technological Education
Site Analysis for Unique Program Characteristics: LEVEL II

	Comprehensive Programs						Non-Comprehensive Programs					
	ADE-funded			Nonfunded			ADE-funded			Nonfunded		
	1	2	3	4	5	6	7	8	9	10	11	12
Organization (1) Instruction provides skill development for a cluster of related occupations.	yes	yes	yes	no	yes	yes	yes	yes	no	no	no	yes
Organization (2) Students served: In the targeted grade levels (9-10) have previously completed a Level I experience.	no	no	no	no	yes	yes	no	no	no	no	yes	no
Organization (2) Students served: Students have the opportunity to participate in more than one cluster, if desired.	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	ns
Organization (3) The experience is a minimum of one year in length or equivalent to 225 min/week.	yes	yes	yes	yes	yes	yes	yes	ns	yes	yes	no	yes
Organization (4) The experience provides a coherent sequence of instruction: each cluster leads to at least one specific Level III experience.	no	ns	yes	no	yes	yes	yes	no	yes	yes	no	yes
Curriculum (8) Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in at least one cluster.	yes	yes	yes	no	yes	yes	yes	no	yes	yes	no	yes
Instructional Delivery (11) The instruction provides students with experience in occupational areas associated with the particular cluster.	yes	yes	yes	no	yes	yes	yes	yes	yes	no	no	yes
Teacher Qualifications (19) The teacher(s) are vocationally certified in appropriate vocational areas related to the specific cluster content.	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	yes

Table C-3.

The Arizona Model for Vocational Technological Education
Site Analysis for Unique Program Characteristics: LEVEL III

	Comprehensive Programs						Non-Comprehensive Programs					
	ADE-funded			Nonfunded			ADE-funded			Nonfunded		
	1	2	3	4	5	6	7	8	9	10	11	12
Organization (1) Instruction provides skill development for specific occupation(s).	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Organization (2) Students served: In the targeted grade levels (11-12) have completed Level I and II experiences.	no	no	yes	no	no	no	no	no	yes	no	no	yes
Organization (3) The experience is a minimum of 360 hours in length.	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Organization (4) The experience provides a coherent sequence of instruction: leads to employment and advanced training.	yes	yes	yes	ns	yes	yes	yes	yes	yes	yes	yes	yes
Curriculum (8) Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in specific occupation(s).	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	yes
Instructional Delivery (11) The instruction provides students with experience in specific occupation(s).	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Teacher Qualifications (19) The teacher(s) are vocationally certified in the specific vocational area.	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	yes

Table C-4. The Arizona Model for Vocational Technological Education
Analysis of Sites on Shared Program Characteristics: LEVEL I

	Comprehensive Programs						Non-Comprehensive Programs					
	ADE-funded			Nonfunded			ADE-funded			Nonfunded		
	1	2	3	4	5	6	7[a]	8[b]	9[c]	10[b]	11[a]	12[c]
Organization (5) The experience has the support of the local school/district administration.	ns	ns	yes	ns	yes	yes	yes	no	no	yes	yes	no
Organization (6) An active advisory council assists in designing and implementing this experience.	ns	ns	yes	no	no	ns	yes	no	no	no	ns	no
Curriculum (7) Curriculum is competency-based with each student's attainment of each competency monitored.	ns	yes	yes	yes	ns	ns	yes	no	no	ns	no	no
Curriculum (9) Curriculum includes all six of the Model "Strands."	ns	yes	no	no	ns	ns	yes	no	no	ns	no	no
Curriculum (10) Curriculum provides for student leadership development, which can include the use of vocational student organizations.	ns	ns	yes	ns	no	ns	no	no	no	no	no	no
Instructional Delivery (12) The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	ns	yes	yes	yes	ns	yes	yes	no	no	yes	yes	no
Instructional Delivery (13) Students work in groups or teams frequently.	ns	yes	yes	yes	ns	yes	yes	no	no	yes	yes	no
Instructional Delivery (14) Instructional activities include industry-realistic situations and materials, and are evaluated according to industry-related standards.	ns	yes	ns	no	ns	yes	yes	no	no	ns	no	no
Instructional Delivery (15) The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	ns	ns	ns	no	ns	ns	yes	no	no	ns	no	no

a = Does have a Level I program (self-reported as not in compliance with ADE criteria)
b = Does have a district-defined exploratory course/program (self-reported as not in compliance with ADE criteria)
c = Does *not* have a Level I program or district-defined exploratory course/program

	Comprehensive Programs						Non-Comprehensive Programs					
	ADE-funded			Nonfunded			ADE-funded			Nonfunded		
	1	2	3	4	5	6	7	8	9	10	11	12
Facilities and Equipment (16) The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	ns	ns	yes	no	no	yes	yes	no	no	yes	no	no
Facilities and Equipment (17) The environment simulates one that would be found in business and industry.	ns	ns	ns	no	ns	yes	yes	no	no	ns	no	no
Facilities and Equipment (18) The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	ns	ns	yes	no	ns	yes	yes	no	no	ns	no	no
Teacher Qualifications (20) The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	ns	ns	yes	yes	yes	yes	yes	no	no	yes	yes	no

Table C-5. The Arizona Model for Vocational Technological Education Site Analysis on Shared Program Characteristics: LEVEL II

	Comprehensive Programs						Non-Comprehensive Programs					
	ADE-funded			Nonfunded			ADE-funded			Nonfunded		
	1	2	3	4	5	6	7	8	9	10	11	12
Organization (5) The experience has the support of the local school/district administration.	yes	yes	yes	ns	yes	yes	yes	ns	yes	yes	yes	yes
Organization (6) An active advisory council assists in designing and implementing this experience.	yes	yes	yes	no	yes	yes	yes	yes	no	yes	yes	yes
Curriculum (7) Curriculum is competency-based with each student's attainment of each competency monitored.	yes	yes	yes	yes	yes	yes	yes	ns	ns	yes	yes	yes
Curriculum (9) Curriculum includes all six of the Model "Strands."	no	yes	no	no	no	no	yes	no	no	no	no	no
Curriculum (10) Curriculum provides for student leadership development, which can include the use of vocational student organizations.	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	yes
Instructional Delivery (12) The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	yes	yes	yes	yes	yes	yes	yes	ns	yes	yes	yes	yes
Instructional Delivery (13) Students work in groups or teams frequently.	yes	yes	ns	yes	yes	yes	yes	ns	yes	ns	yes	yes
Instructional Delivery (14) Instructional activities include industry-realistic situations and materials, and are evaluated according to industry-related standards.	yes	yes	no	no	ns	ns	yes	no	ns	no	no	ns
Instructional Delivery (15) The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	ns	ns	ns	no	ns	ns	yes	no	yes	ns	ns	ns

	Comprehensive Programs						Non-Comprehensive Programs					
	ADE-funded			Nonfunded			ADE-funded			Nonfunded		
	1	2	3	4	5	6	7	8	9	10	11	12
Facilities and Equipment (16) The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	yes	yes	yes	yes	no	yes	yes	yes	yes	no	no	no
Facilities and Equipment (17) The environment simulates one that would be found in business and industry.	no	yes	ns	no	no	yes	yes	yes	yes	no	no	yes
Facilities and Equipment (18) The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	yes	yes	yes	no	yes	yes	yes	yes	no	yes	no	yes
Teacher Qualifications (20) The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Table C-6. The Arizona Model for Vocational Technological Education
Site Analysis for Shared Program Characteristics: LEVEL III

	Comprehensive Programs						Non-Comprehensive Programs					
	ADE-funded			Nonfunded			ADE-funded			Nonfunded		
	1	2	3	4	5	6	7	8	9	10	11	12
Organization (5) The experience has the support of the local school/district administration.	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Organization (6) An active advisory council assists in designing and implementing this experience.	yes	yes	yes	no	yes	yes	yes	yes	no	yes	yes	yes
Curriculum (7) Curriculum is competency-based with each student's attainment of each competency monitored.	yes	yes	yes	yes	yes	yes	yes	yes	ns	yes	yes	yes
Curriculum (9) Curriculum includes all six of the Model "Strands."	no	yes	no	no	no	no	yes	no	no	no	no	no
Curriculum (10) Curriculum provides for student leadership development, which can include the use of vocational student organizations.	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	yes
Instructional Delivery (12) The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Instructional Delivery (13) Students work in groups or teams frequently.	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Instructional Delivery (14) Instructional activities include industry-realistic situations and materials, and are evaluated according to industry-related standards.	yes	yes	yes	no	no	yes	yes	yes	yes	no	no	yes
Instructional Delivery (15) The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	yes	ns	yes	no	yes	ns	yes	yes	yes	yes	yes	ns

	Comprehensive Programs						Non-Comprehensive Programs					
	ADE-funded			Nonfunded			ADE-funded			Nonfunded		
	1	2	3	4	5	6	7	8	9	10	11	12
Facilities and Equipment (16) The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	yes	yes	yes	yes	no	yes	yes	yes	yes	no	no	yes
Facilities and Equipment (17) The environment simulates one that would be found in business and industry.	no	yes	yes	no	no	yes	yes	yes	yes	no	no	yes
Facilities and Equipment (18) The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	yes	yes	yes	no	yes	yes	yes	yes	no	yes	no	yes
Teacher Qualifications (20) The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Table C-7.

Comparison of Comprehensive and Non-comprehensive Sites on "Unique" Characteristics for Level I

Unique Program Characteristics	Level I Programs*					
	Comprehensive (n = 6)			Non-comprehensive (n = 6)		
	yes	no	not sure	yes	no	not sure
Organization (1) Instruction provides an exploration/skill development for all occupations.	3	3	–	2	4	–
Organization (2) Students served: 100% in the targeted grade level (7-9).	2	4	–	1	5	–
Organization (3) The experience is a minimum of one year in length or equivalent to 225 min/week.	3	3	–	1	5	–
Organization (4) The experience provides a coherent sequence of instruction required for all vocational technological programs.	1	5	–	1	5	–
Curriculum (8) Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in the draft Level I Framework.	3	1	2	1	5	–
Instructional Delivery (11) The instruction provides students with experience in a variety of occupational areas.	5	1	–	2	4	–
Teacher Qualifications (19) The teacher(s) are vocationally certified in vocational areas or if a team of teachers instruct the Level I experience, at least one will be vocationally certified.	3	1	2	3	3	–
	20	18	4	11	31	–

* Yes, No, and Not Sure ratings reflect the judgments of site evaluators; Ratings for each criterion has been summed across sites

Table C-8.

Comparison of Comprehensive and Non-comprehensive Sites on "Unique" Characteristics for Level II

Unique Program Characteristics	Level II Programs*					
	Comprehensive (n = 6)			Non-comprehensive (n = 6)		
	yes	no	not sure	yes	no	not sure
Organization (1) Instruction provides skill development for a cluster of related occupations.	5	1	–	3	3	–
Organization (2-a) Students served: In the targeted grade levels (9-10) have previously completed a Level I experience.	2	4	–	1	5	–
Organization (2-b) Students served: Students have the opportunity to participate in more than one cluster, if desired.	4	1	1	5	–	1
Organization (3) The experience is a minimum of one year in length or equivalent to 225 min/week.	6	–	–	4	1	1
Organization (4) The experience provides a coherent sequence of instruction: each cluster leads to at least one specific Level III experience.	3	3	–	4	2	–
Curriculum (8) Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in at least one cluster.	5	1	–	4	2	–
Instructional Delivery (11) The instruction provides students with experiences in occupational areas associated with the particular cluster(s).	5	1	–	4	2	–
Teacher Qualifications (19) The teacher(s) are certified in appropriate vocational areas related to the specific cluster content.	5	1	–	6	–	–
	35	12	1	31	15	2

* Yes, No, and Not Sure ratings reflect the judgments of site evaluators; Ratings for each criterion has been summed across sites

Table C-9.

Comparison of Comprehensive and Non-comprehensive Sites on "Unique" Characteristics for Level III

Unique Program Characteristics	Level III Programs*					
	Comprehensive (n = 6)			Non-comprehensive (n = 6)		
	yes	no	not sure	yes	no	not sure
Organization (1) Instruction provides skill development for specific occupation(s).	6	–	–	6	–	–
Organization (2) Students served: In the targeted grade levels (11-12) have completed Level I and II experiences.	1	5	–	2	4	–
Organization (3) The experience is a minimum of 360 hours in length.	6	–	–	6	–	–
Organization (4) The experience provides a coherent sequence of instruction: leads to employment and advanced training.	5	–	1	6	–	–
Curriculum (8) Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in specific occupation(s).	5	1	–	6	–	–
Instructional Delivery (11) The instruction provides students with experience in specific occupation(s).	6	–	–	6	–	–
Teacher Qualifications (19) The teacher(s) are vocationally certified in the specific vocational area.	5	1	–	6	–	–
	34	7	1	38	4	–

* Yes, No, and Not Sure ratings reflect the judgments of site evaluators; Ratings for each criterion has been summed across sites

Table C-10.

Comparison of Comprehensive and Non-Comprehensive Sites on "Shared" Characteristics for Level I

Shared Program Characteristics	Level I Programs*					
	Comprehensive (n = 6)			Non-comprehensive (n = 6)		
	yes	no	not sure	yes	no	not sure
Organization (5) The experience has the support of the local school/district administration.	3	–	3	3	3	–
Organization (6) An active advisory council assists in designing and implementing this experience.	1	2	3	1	4	1
Curriculum (7) Curriculum is competency-based; students' attainment of competencies are monitored.	3	–	3	1	4	1
Curriculum (9) Curriculum includes all six of the Model "Strands."	1	2	3	1	4	1
Curriculum (10) Curriculum provides for student leadership development, which can include the use of vocational student organizations.	1	1	4	–	6	–
Instructional Delivery (12) The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	4	–	2	3	3	–
Instructional Delivery (13) Students work in groups or teams frequently.	4	–	2	3	3	–
Instructional Delivery (14) Instructional activities include industry-realistic situations/materials, and are evaluated according to industry-related standards.	2	1	3	1	4	1
Instructional Delivery (15) The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	–	1	5	1	4	1
Facilities and Equipment (16) The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	2	2	2	2	4	–
Facilities and Equipment (17) The environment simulates...business and industry.	1	1	4	1	4	1
Facilities and Equipment (18) The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	2	1	3	1	4	1
Teacher Qualifications (20) The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	4	–	2	3	3	–
	28	11	39	21	50	7

* Yes, No, and Not Sure ratings reflect the judgments of site evaluators; Ratings for each criterion has been summed across sites

Table C-11.

Comparison of Comprehensive and Non-Comprehensive Sites on "Shared" Characteristics for Level II

Shared Program Characteristics	Level II Programs*					
	Comprehensive (n = 6)			Non-comprehensive (n = 6)		
	yes	no	not sure	yes	no	not sure
Organization (5) The experience has the support of the local school/district administration.	5	–	1	5	–	1
Organization (6) An active advisory council assists in designing and implementing this experience.	5	1	–	5	1	–
Curriculum (7) Curriculum is competency-based; students' attainment of competencies are monitored.	6	–	–	4	–	2
Curriculum (9) Curriculum includes all six of the Model "Strands."	1	5	–	1	5	–
Curriculum (10) Curriculum provides for student leadership development, which can include the use of vocational student organizations.	5	1	–	6	–	–
Instructional Delivery (12) The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	6	–	–	5	–	1
Instructional Delivery (13) Students work in groups or teams frequently.	5	–	1	4	–	2
Instructional Delivery (14) Instructional activities include industry-realistic situations/materials, and are evaluated according to industry-related standards.	2	2	2	1	3	2
Instructional Delivery (15) The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	–	1	5	2	1	3
Facilities and Equipment (16) The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	5	1	–	3	3	–
Facilities and Equipment (17) The environment simulates...business and industry.	2	3	1	4	2	–
Facilities and Equipment (18) The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	5	1	–	4	2	–
Teacher Qualifications (20) The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	6	–	–	6	–	–
	53	15	10	50	17	11

* Yes, No, and Not Sure ratings reflect the judgments of site evaluators; Ratings for each criterion has been summed across sites

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Table C-12.

Comparison of Comprehensive and Non-Comprehensive Sites on "Shared" Characteristics for Level III

Shared Program Characteristics	Level III Programs*					
	Comprehensive (n = 6)			Non-comprehensive (n = 6)		
	yes	no	not sure	yes	no	not sure
Organization (5) The experience has the support of the local school/district administration.	6	–	–	6	–	–
Organization (6) An active advisory council assists in designing and implementing this experience.	5	1	–	5	1	–
Curriculum (7) Curriculum is competency-based; students' attainment of competencies are monitored.	6	–	–	5	–	1
Curriculum (9) Curriculum includes all six of the Model "Strands."	1	5	–	1	5	–
Curriculum (10) Curriculum provides for student leadership development, which can include the use of vocational student organizations.	5	1	–	6	–	–
Instructional Delivery (12) The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	6	–	–	6	–	–
Instructional Delivery (13) Students work in groups or teams frequently.	6	–	–	6	–	–
Instructional Delivery (14) Instructional activities include industry-realistic situations/materials, and are evaluated according to industry-related standards.	4	2	–	4	2	–
Instructional Delivery (15) The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	3	1	2	5	–	1
Facilities and Equipment (16) The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	5	1	–	4	2	–
Facilities and Equipment (17) The environment simulates...business and industry.	3	3	–	4	2	–
Facilities and Equipment (18) The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	5	1	–	4	2	–
Teacher Qualifications (20) The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	6	–	–	6	–	–
	61	15	2	62	14	2

* Yes, No, and Not Sure ratings reflect the judgments of site evaluators; Ratings for each criterion has been summed across sites

Table C-13.

Comparison of ADE Model-funded and Nonfunded Sites on "Unique" Characteristics for Level I

Unique Program Characteristics	Level I Programs*					
	ADE-funded (n = 6)			Nonfunded (n = 6)		
	yes	no	not sure	yes	no	not sure
Organization (1) Instruction provides an exploration/skill development for all occupations.	4	2	–	1	5	–
Organization (2) Students served: 100% in the targeted grade level (7-9).	–	6	–	3	3	–
Organization (3) The experience is a minimum of one year in length or equivalent to 225 min/week.	4	2	–	–	6	–
Organization (4) The experience provides a coherent sequence of instruction required for all vocational technological programs.	1	5	–	1	5	–
Curriculum (8) Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in the draft Level I Framework.	3	2	1	1	4	1
Instructional Delivery (11) The instruction provides students with experience in a variety of occupational areas.	5	1	–	2	4	–
Teacher Qualifications (19) The teacher(s) are vocationally certified in vocational areas or if a team of teachers instruct the Level I experience, at least one will be vocationally certified.	4	1	1	2	3	1
	21	19	1	10	30	1

* Yes, No, and Not Sure ratings reflect the judgments of site evaluators; Ratings for each criterion has been summed across sites

Table C-14.

Comparison of ADE Model-funded and Nonfunded Sites on "Unique" Characteristics for Level II

Unique Program Characteristics	Level II Programs*					
	ADE-funded (n = 6)			Nonfunded (n = 6)		
	yes	no	not sure	yes	no	not sure
Organization (1) Instruction provides skill development for a cluster of related occupations.	5	1	–	3	3	–
Organization (2-a) Students served: In the targeted grade levels (9-10) have previously completed a Level I experience.	–	6	–	3	3	–
Organization (2-b) Students served: Students have the opportunity to participate in more than one cluster, if desired.	6	–	–	3	1	2
Organization (3) The experience is a minimum of one year in length or equivalent to 225 min/week.	5	–	1	5	1	–
Organization (4) The experience provides a coherent sequence of instruction: each cluster leads to at least one specific Level III experience.	3	3	–	4	2	–
Curriculum (8) Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in at least one cluster.	5	1	–	4	2	–
Instructional Delivery (11) The instruction provides students with experiences in occupational areas associated with the particular cluster(s).	6	–	–	3	3	–
Teacher Qualifications (19) The teacher(s) are certified in appropriate vocational areas related to the specific cluster content.	6	–	–	5	1	–
	35	12	1	30	16	2

* Yes, No, and Not Sure ratings reflect the judgments of site evaluators; Ratings for each criterion has been summed across sites

Table C-15.

Comparison of ADE Model-funded and Nonfunded Sites on "Unique" Characteristics for Level III

Unique Program Characteristics	Level III Programs*					
	ADE-funded (n = 6)			Nonfunded (n = 6)		
	yes	no	not sure	yes	no	not sure
Organization (1) Instruction provides skill development for specific occupation(s).	6	–	–	6	–	–
Organization (2) Students served: In the targeted grade levels (11-12) have completed Level I and II experiences.	2	4	–	1	5	–
Organization (3) The experience is a minimum of 360 hours in length.	6	–	–	6	–	–
Organization (4) The experience provides a coherent sequence of instruction: leads to employment and advanced training.	6	–	–	5	–	1
Curriculum (8) Curriculum is designed to deliver all academic and occupational competencies (approved by ADE) in specific occupation(s).	6	–	–	5	1	–
Instructional Delivery (11) The instruction provides students with experience in specific occupation(s).	6	–	–	6	–	–
Teacher Qualifications (19) The teacher(s) are vocationally certified in the specific vocational area.	6	–	–	5	1	–
	38	4	–	34	7	1

* Yes, No, and Not Sure ratings reflect the judgments of site evaluators; Ratings for each criterion has been summed across sites

Table C-16.

Comparison of ADE Model-funded and Nonfunded Sites on "Shared" Characteristics for Level I

Shared Program Characteristics	Level I Programs*					
	ADE-funded (n = 6)			Nonfunded (n = 6)		
	yes	no	not sure	yes	no	not sure
Organization (5) The experience has the support of the local school/district administration.	2	2	2	4	1	1
Organization (6) An active advisory council assists in designing and implementing this experience.	2	2	2	–	3	3
Curriculum (7) Curriculum is competency-based; students' attainment of competencies are monitored.	3	2	1	1	2	3
Curriculum (9) Curriculum includes all six of the Model "Strands."	2	3	1	–	3	3
Curriculum (10) Curriculum provides for student leadership development, which can include the use of vocational student organizations.	1	3	2	–	4	2
Instructional Delivery (12) The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	3	2	1	3	3	–
Instructional Delivery (13) Students work in groups or teams frequently.	3	2	1	4	1	1
Instructional Delivery (14) Instructional activities include industry-realistic situations/materials, and are evaluated according to industry-related standards.	2	2	1	1	3	2
Instructional Delivery (15) The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	1	2	3	–	3	3
Facilities and Equipment (16) The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	2	2	2	2	4	–
Facilities and Equipment (17) The environment simulates...business and industry.	1	2	3	1	3	2
Facilities and Equipment (18) The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	2	2	2	1	3	2
Teacher Qualifications (20) The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	2	2	2	5	1	–
	26	28	23	22	34	22

* Yes, No, and Not Sure ratings reflect the judgments of site evaluators; Ratings for each criterion has been summed across sites

Table C-17.

Comparison of ADE Model-funded and Nonfunded Sites on "Shared" Characteristics for Level II

Shared Program Characteristics	Level II Programs*					
	ADE-funded (n = 6)			Nonfunded (n = 6)		
	yes	no	not sure	yes	no	not sure
Organization (5) The experience has the support of the local school/district administration.	5	–	1	5	–	1
Organization (6) An active advisory council assists in designing and implementing this experience.	5	1	–	5	1	–
Curriculum (7) Curriculum is competency-based; students' attainment of competencies are monitored.	4	–	2	6	–	–
Curriculum (9) Curriculum includes all six of the Model "Strands."	2	4	–	–	6	–
Curriculum (10) Curriculum provides for student leadership development, which can include the use of vocational student organizations.	6	–	–	5	1	–
Instructional Delivery (12) The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	5	–	1	6	–	–
Instructional Delivery (13) Students work in groups or teams frequently.	4	–	2	5	–	1
Instructional Delivery (14) Instructional activities include industry-realistic situations/materials, and are evaluated according to industry-related standards.	3	2	1	–	3	3
Instructional Delivery (15) The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	2	1	3	–	1	5
Facilities and Equipment (16) The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	6	–	–	2	4	–
Facilities and Equipment (17) The environment simulates...business and industry.	4	1	1	2	4	–
Facilities and Equipment (18) The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	5	1	–	4	2	–
Teacher Qualifications (20) The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	6	–	–	6	–	–
	57	10	11	46	22	10

* Yes, No, and Not Sure ratings reflect the judgments of site evaluators; Ratings for each criterion has been summed across sites

Table C-18.

Comparison of ADE Model-funded and Nonfunded Sites on "Shared" Characteristics for Level II

Shared Program Characteristics	Level III Programs*					
	ADE-funded (n = 6)			Nonfunded (n = 6)		
	yes	no	not sure	yes	no	not sure
Organization (5) The experience has the support of the local school/district administration.	6	–	–	6	–	–
Organization (6) An active advisory council assists in designing and implementing this experience.	5	1	–	5	1	–
Curriculum (7) Curriculum is competency-based; students' attainment of competencies are monitored.	5	–	1	6	–	–
Curriculum (9) Curriculum includes all six of the Model "Strands."	2	4	–	–	6	–
Curriculum (10) Curriculum provides for student leadership development, which can include the use of vocational student organizations.	6	–	–	5	1	–
Instructional Delivery (12) The teacher serves as a facilitator of instruction, managing a variety of learning experiences for students.	6	–	–	6	–	–
Instructional Delivery (13) Students work in groups or teams frequently.	6	–	–	6	–	–
Instructional Delivery (14) Instructional activities include industry-realistic situations/materials, and are evaluated according to industry-related standards.	6	–	–	2	4	–
Instructional Delivery (15) The instructional delivery includes occupational experiences which can include shadowing and cooperative education.	5	–	1	3	1	2
Facilities and Equipment (16) The instructional facility provides a multi-purpose environment with appropriate technology and support systems.	6	–	–	3	3	–
Facilities and Equipment (17) The environment simulates...business and industry.	5	1	–	2	4	–
Facilities and Equipment (18) The equipment and materials utilized in the experience are determined on the basis of the curriculum and industry standards.	5	1	–	4	2	–
Teacher Qualifications (20) The teacher(s) have recent inservice to update and upgrade their teaching techniques and content knowledge.	6	–	–	6	–	–
	69	7	2	54	22	2

* Yes, No, and Not Sure ratings reflect the judgments of site evaluators; Ratings for each criterion has been summed across sites

APPENDIX D

LEA Performance Standards Procedures *Survey Results*

All results reported in this appendix reflect the total number of surveys analyzed (N = 128). Results by occupational area are available as separate documents. As a general rule, respondents were asked to check only one answer. For a few questions, respondents were asked to "check all that apply." For these questions, numbers and percentages exceed 128 and 100 percent, respectively.

Results are reported by section in the order in which they appeared on the survey. Questions have been paraphrased slightly to assist readability.

SECTION I: PERFORMANCE STANDARDS—MEASURING ACADEMIC SKILLS (BASIC)

Question 1.1: Survey recipients were asked to indicate whether they used a formal procedure to identify academic skills in all courses in their program.

100 (78 percent) indicated they identified academic skills in <u>all</u> courses using the *same* procedure.

14 (11 percent) said they identified academic skills in <u>all</u> courses but used *different* procedures.

13 (10 percent) said academic skills are not *formally* identified for every course.

1 respondent (>1 percent) did not respond.

Question 1.2: Survey recipients were asked to indicate what procedure is used to identify academic skills related to their particular occupational program. Of the 128 respondents:

6 (5 percent) indicated the academic curriculum was analyzed.

12 (9 percent) said the VTE program curriculum was analyzed.

17 (13 percent) said a test was analyzed.

41 (32 percent) indicated that teacher judgement was used.

26 (20 percent) said Arizona's *Essential Skills* were used.

6 (5 percent) specified other procedures were used, such as the Mesa Public Schools Test.

12 (9 percent) gave multiple responses, such as a test was analyzed in addition to using teacher judgement or Arizona's Essential Skills.

8 (6 percent) did not respond.

Question 1.3: Pertaining to identification of basic academic skills, survey respondents were asked in what areas were specific *academic skills* identified.

110 (86 percent) said communication such as reading and writing.

111 (87 percent) indicated mathematics.

67 (52 percent) indicated science.

5 (4 percent) indicated other areas such as language.

11 (9 percent) did not respond.

Question 1.4: Survey respondents were asked to indicate who was primarily involved in the process to identify the specific academic skills associated with the courses in their particular program.

73 (57 percent) indicated the individual VTE course program instructor(s).

15 (12 percent) said the school/district VTE personnel *only*.

1 (>1 percent) indicated school/district personnel from academic areas *only*.

12 (9 percent) indicated interdisciplinary school/district teams.

6 (5 percent) said ADE-provided resources.

6 (5 percent) indicated other processes were used such as Mesa Public Schools Test.

5 (4 percent) gave multiple responses such as individual VTE course program instructor and ADE-provided resources.

10 (8 percent) did not respond.

Question 1.5: Pertaining to student assessment methods for basic academic skills, are the same methods used in *every* course to assess students' academic gains?

115 (90 percent) answered yes.

12 (9 percent) answered no.

1 (>1 percent) did not respond.

Question 1.6: Pertaining to student assessment methods for basic academic skills, does every course use a test to assess students' academic gains?

120 (94 percent) answered yes.

7 (5 percent) answered no.

1 (>1 percent) did not respond.

Question 1.7: Respondents were asked to indicate, pertaining to student assessment methods for basic academic skills, what kinds of test(s) is/are used to measure student gain.

16 (13 percent) said ASAP (Arizona Student Assessment Program).

10 (8 percent) said ASU Academic Skills Assessment for Model Sites.

21 (16 percent) indicated a district test (e.g., a CRT).

10 (8 percent) said norm referenced test such as ITBS/TAP.

75 (59 percent) said teacher developed test.

17 (13 percent) indicated other tests such as Kingman High School Test, Mesa Public Schools Test and ADE provided tests.

6 (5 percent) did not respond.

Question 1.8: Pertaining to student assessment methods for basic academic skills, are *all* students in every course pre-post tested?

109 (85 percent) said yes.

14 (11 percent) said no.

5 (4 percent) did not respond.

SECTION I: PERFORMANCE STANDARDS—MEASURING ACADEMIC SKILLS (ADVANCED)

Question 1.1: Survey recipients were asked to indicate whether they used a formal procedure to identify academic skills in all courses in their program.

96 (75 percent) indicated they identified academic skills in all courses using the *same* procedure.

11 (9 percent) said they identified academic skills in all courses but used *different* procedures.

15 (12 percent) said academic skills are not *formally* identified for every course.

6 recipients (5 percent) did not respond.

Question 1.2: Survey recipients were asked to indicate what procedure is used to identify academic skills related to their particular occupational program.

7 (5 percent) said the academic curriculum was analyzed.

12 (9 percent) indicated the VTE program curriculum was analyzed.

16 (13 percent) said a test was analyzed.

43 (34 percent) said that teacher judgement was used.

22 (17 percent) indicated Arizona's *Essential Skills* were used.

6 (5 percent) said other procedures such as the Mesa Public Schools Test and ADE provided materials were used.

8 (6 percent) gave multiple responses such as academic curriculum, VTE curriculum and a test was analyzed.

14 recipients (11 percent) did not respond.

Question 1.3: Survey respondents were asked to indicate what areas specific *academic skills* were identified.

107 (84 percent) indicated communication (reading and writing).

108 (84 percent) indicated mathematics.

65 (51 percent) said science.

5 (4 percent) identified other areas such as language.

14 (11 percent) did not respond.

Question 1.4: Survey respondents were asked to indicate who was primarily involved in the process to identify the specific academic skills associated with the courses in their particular program.

70 (55 percent) indicated the individual VTE course program instructor(s).

15 (12 percent) said the school/district VTE personnel *only*.

1 (>1 percent) indicated school/district personnel from academic areas *only*.

12 (9 percent) indicated interdisciplinary school/district teams.

6 (5 percent) said ADE-provided resources.

6 (5 percent) said other processes were used such as the Mesa Public Schools Test.

4 (3 percent) gave multiple responses, the most common one being individual VTE course/program instructor in addition to an "other" method.

14 recipients (11 percent) did not respond.

Question 1.5: Respondents were asked, pertaining to student assessment methods for advanced academic skills, if the same methods are used in *every* course to assess students' academic gains.

112 (88 percent) answered yes.

12 (9 percent) answered no.

4 recipients (3 percent) did not answer.

Question 1.6: Survey recipients were asked to indicate, pertaining to student assessment methods for advanced academic skills, if every course uses a test to assess students' academic gains.

116 (91 percent) indicated yes.

8 (6 percent) indicated no.

4 (3 percent) of the recipients did not respond.

Question 1.7: Respondents were asked to indicate, pertaining to student assessment methods for advanced academic skills, what kind of test(s) is/are used to measure student gain.

14 (11 percent) indicated ASAP (Arizona Student Assessment Program).

10 (8 percent) said ASU Academic Skills Assessment for Model Sites.

19 (15 percent) indicated a district test (e.g., CRT).

9 (7 percent) use a norm referenced test such as ITBS/TAP.

72 (56 percent) use a teacher-developed test.

17 (13 percent) indicated some other type of test such as the Mesa Public Schools Test, a test developed by Kingman High School, ADE provided tests, and the Tech Prep Consortium.

8 (6 percent) did not respond.

Question 1.8: Respondents were asked, pertaining to student assessment methods for advanced academic skills, are *all* students in every course pre-post tested?

105 (82 percent) answered yes.

14 (11 percent) answered no.

9 (7 percent) did not respond.

SECTION II: PERFORMANCE STANDARDS—MEASURING OCCUPATIONAL COMPETENCY

Question 2.1: Survey respondents were asked to indicate how occupational competencies/tasks were identified for their particular program.

111 (87 percent) said competencies/tasks were identified for <u>all</u> courses using the *same* procedure.

14 (11 percent) said competencies/tasks were identified for <u>all</u> courses using *different* procedures.

1 (> 1 percent) said competencies are not *formally* identified for every course.

2 (2 percent) did not respond.

Question 2.2: Survey recipients were asked to indicate the procedure that is used to identify occupational competencies/tasks for the courses in their particular program.

24 (19 percent) indicated the VTE program curriculum was analyzed.

1 (>1 percent) responded that a test was analyzed.

22 (17 percent) said that teacher judgement was used.

65 (51 percent) indicated that the ADE validated competency/task lists were used.

3 (2 percent) said that other occupational competencies/tasks were used such as competencies and input from local advisory council.

8 (6 percent) gave multiple responses such as a combination of the VTE program curriculum, teacher judgement and the ADE validated competency/task list.

5 (4 percent) did not respond.

Question 2.3: Respondents were asked to indicate who was primarily involved in the process to identify the specific occupational competencies and tasks associated with the courses in their particular program.

58 (45 percent) said the VTE course instructor(s) in the program.

7 (5 percent) indicated the school/district VTE teams.

15 (12 percent) indicated the local advisory council/Program advisory committee.

25 (20 percent) said the ADE competency /task lists were used.

4 (3 percent) indicated others who were primarily involved such as the FAA or the local community college (EAC) business instructors and the business teachers in Graham/Greenlee counties.

12 (9 percent) gave a multiple response, for example, the school district VTE teams and the local advisory council/Program advisory committee.

7 (5 percent) did not respond.

Question 2.4: Pertaining to student assessment methods, survey respondents were asked if similar methods are used in *every* course to assess student attainment of occupational competencies and tasks.

112 (88 percent) said yes.

12 (9 percent) said no.

4 (3 percent) did not respond.

Question 2.5: In relation to student assessment methods, survey recipients were asked if every course uses a course-based performance measure of occupational competencies, for example a project or skill demonstration.

113 (88 percent) indicated yes.

9 (7 percent) indicated no.

6 (5 percent) did not respond.

Question 2.6: Pertaining to student assessment methods, survey respondents were asked to indicate what other methods, if any, are used to determine the attainment of occupational competencies and tasks.

52 (41 percent) said they used on-the-job supervisor evaluations.

47 (37 percent) indicated they used student evaluations.

113 (88 percent) used teacher-developed paper and pencil tests.

125 (98 percent) said they used teacher observation and judgement of student performance.

11 (9 percent) indicated they used other methods, such as ADE developed "pencil and paper" tests.

1 (>1 percent) did not respond.

Question 2.7: In relation to the requirements of their particular program, survey respondents were asked how many individual courses constitute *this program* in their school.

82 (64 percent) said 1-3 courses.

39 (30 percent) indicated 4-6 courses.

7 (5 percent) answered 7 or more courses.

Question 2.8: Pertaining to the requirements of their particular program, survey recipients were asked the typical length of a course.

8 (6 percent) said one semester.

113 (88 percent) indicated two semesters.

5 (4 percent) gave a multiple response indicating one and two semesters.

2 (2 percent) did not respond.

Question 2.9: Survey respondents were asked to define ***course completer*** in their particular program.

45 (35 percent) said all students enrolled in the first grading period who finish the course.

69 (54 percent) said only students who receive credit for the course.

11 (9 percent) gave other definitions such as a student who completes 80 percent or more of the competencies.

2 (2 percent) gave a multiple answer consisting of the first two responses.

1 (>1 percent) did not respond.

Question 2.10: Survey respondents were asked, pertaining to the requirements of their program, how many courses at a minimum, must a ***program completer*** have successfully passed.

104 (81 percent) indicated 1-3 courses.

18 (14 percent) said 4-6 courses.

2 (2 percent) said 7 or more courses.

1 (>1 percent) gave a multiple response.

3 (2 percent) did not respond.

Question 2.11: In reference to the requirements of their program, survey respondents were asked if program completers are *required* to obtain applied and occupational experience in the industry for which they are preparing as part of the program.

58 (45 percent) said yes.

67 (52 percent) said no.

3 (2 percent) did not respond.

Question 2.12: In relation to their particular program requirements, survey recipients were asked what types of applied experiences are required.

6 (5 percent) indicated apprenticeship program(s).

30 (23 percent) said clinical experience, paid or unpaid.

22 (17 percent) indicated cooperative education.

49 (38 percent) said school-based work simulation(s).
6 (5 percent) indicated other requirements such as a Supervised Occupational Experience (SOE) program (an ownership or placement type).

57 (45 percent) did not respond.

SECTION III: PERFORMANCE STANDARDS—MEASURING CONTINUED ENROLLMENT

Question 3.1: Survey recipients were asked to identify the definition of "course enrollment" for their particular program.

34 (27 percent) defined course enrollment as all students who register for a course within the first grading period.

60 (47 percent) defined course enrollment as all students enrolled in the course throughout the term.

30 (23 percent) defined course enrollment as all students who successfully complete course requirements.

3 (2 percent) described course enrollment as "most of the students who register within the first grading period and stay the whole year are course completers."

1 (>1 percent) did not respond.

Question 3.2: Survey respondents were asked whether their school has a management information system (MIS) that allows them to track students that leave the course or program.

63 (49 percent) said yes.

63 (49 percent) said no.

2 (2 percent) did not respond.

Question 3.3: Survey respondents were asked, in their opinion, how much emphasis is put on providing teachers with in-service activities or training that addresses *reasons why students drop out of school.*

5 (4 percent) said it is a high priority with frequent activities.

62 (48 percent) said it is a moderate priority with some activities.

61 (48 percent) said it is a low priority with few or no activities.

Question 3.4: Respondents were asked, in their opinion, is the emphasis from Question 3.3 appropriate?

64 (50 percent) said yes.

63 (49 percent) said no.

1 (>1 percent) did not respond.

Question 3.5: Survey recipients were asked how effective they considered their program to be in keeping kids enrolled *in school.*

64 (50 percent) said very effective.

60 (47 percent) said somewhat effective.

4 (3 percent) said not very effective.

SECTION IV: PERFORMANCE STANDARDS—IVEP STUDENTS

Question 4.1: Survey recipients were asked to what extent do they believe special populations such as IVEP students are represented in their program.

31 (24 percent) indicated it was overrepresented or too many.

92 (72 percent) believed it was proportionately represented.

5 (4 percent) said it was underrepresented or too few.

Question 4.2: Survey respondents were asked to what extent IVEPs are *used* by instructors in their particular program.

48 (38 percent) said often used.

66 (52 percent) indicated sometimes used.

12 (9 percent) said rarely used.

2 (2 percent) did not respond.

Question 4.3: Respondents were asked to indicate to what extent are instructors in their program involved in *developing* IVEPS.

82 (64 percent) said often involved.

27 (21 percent) indicated sometimes involved.

16 (13 percent) said rarely involved.

3 (2 percent) did not respond.

Question 4.4: Survey respondents were asked to what extent instructors in their program coordinate instruction with other instructors working with IVEP students.

26 (20 percent) indicated frequent coordination.

73 (57 percent) said some coordination.

25 (20 percent) indicated infrequent coordination.

4 (3 percent) did not respond.

Question 4.5: According to the *Performance Standards*, IVEP students are expected to perform as well as regular students. Survey respondents were asked, in their opinion, how many instructors in their program believe that this is a realistic expectation.

22 (17 percent) said all instructors.

44 (34 percent) indicated most instructors.

56 (44 percent) said less than half of the instructors.

6 (5 percent) did not respond.

Question 4.6: Respondents were asked if *basic* academic skills for IVEP students are measured in the same way as for regular students.

111 (87 percent) said yes.

11 (9 percent) said no.

2 (2 percent) gave a multiple response.

4 (3 percent) did not respond.

Question 4.7: Survey recipients were asked if *more advanced* academic skills for IVEP students are measured in the same way as for regular students.

113 (88 percent) said yes.

9 (7 percent) said no.

2 (2 percent) gave a multiple response.

4 (3 percent) did not respond.

Question 4.8: Respondents were asked if the attainment of *occupational competency* for IVEP students is measured in the same way as for regular students.

109 (85 percent) said yes.

15 (12 percent) said no.

4 (3 percent) gave no response.

SECTION V: PREPARING AND CONDUCTING THE LOCAL EVALUATION

Question 5.1: Survey recipients were asked if their district's VTE director acts as the local evaluation coordinator.

110 (86 percent) said yes.

16 (13 percent) said no.

1 (>1 percent) indicated they did not know or the question was not applicable.

1 (>1 percent) did not respond.

Question 5.2: Regarding assessment and data collection, respondents were asked to indicate what types of training and support were provided for the teachers of their program.

93 (73 percent) said district in-service training.

74 (58 percent) indicated district support such as administrative and clerical assistance.

39 (30 percent) indicated state-sponsored training.

35 (27 percent) said ADE staff assistance.

7 (5 percent) did not respond.

Question 5.3: Survey respondents were asked how often evaluation information was shared with the teachers for their particular program.

71 (55 percent) indicated regularly.

40 (31 percent) said occasionally.

10 (8 percent) said seldom.

5 (4 percent) indicated never.

2 (2 percent) did not respond.

Question 5.4: Survey respondents were asked if there was a local evaluation team for their program.

112 (88 percent) indicated yes.

14 (11 percent) said no.

1 (>1 percent) gave a multiple response.

1 (>1 percent) did not respond.

Question 5.5: Survey respondents were asked how many members were on the local evaluation team for their program.

Of the 112 respondents who indicated they did have a team, the range was from 2 to 20 and the average was 6.

Question 5.6.a: Respondents were asked if the team included a teacher representative.

114 (89 percent) said yes.

0 (0 percent) said no.

14 (11 percent) did not respond.

Question 5.6.b: Survey recipients were asked if the team included a business and industry representative.

108 (84 percent) indicated yes.

2 (2 percent) said no.

18 (14 percent) did not respond.

Question 5.6.c: Survey respondents were asked if the team included a special population representative.

106 (83 percent) said yes.

6 (5 percent) indicated no.

16 (13 percent) did not respond.

Question 5.7: Survey recipients were asked if the team received training for its role.

90 (70 percent) indicated yes.

19 (15 percent) said no.

4 (3 percent) said they did not know or the question was not applicable.

15 (12 percent) did not respond.

Question 5.8: Respondents were asked if the performance standards were *not* met, did the local evaluation team play a key role in the development of a local improvement plan.

88 (69 percent) said yes.

17 (13 percent) said no.

3 (2 percent) said they did not know or the question was not applicable.

20 (16 percent) did not respond.

Question 5.9: Survey respondents were asked if it was clearly understood that team members who disagreed with the district report could file a minority report.

103 (80 percent) said yes.

7 (5 percent) said no.

3 (2 percent) indicated they did not know or the question was not applicable.

15 (12 percent) did not respond.

Question 5.10: Survey recipients were asked if any team member(s) filed a minority report.

9 (7 percent) indicated yes.

99 (77 percent) said no.

6 (5 percent) did not know or said the question was not applicable.

14 (11 percent) did not respond.

SECTION VI: USER EVALUATION OF PERFORMANCE STANDARDS SYSTEM

Question 6.1: Survey recipients were asked if they agree that the *Performance Standards* requiring that students demonstrate gains in basic and advanced academic skills are important for evaluating VTE programs in their school/district.

22 (17 percent) strongly agree.

74 (58 percent) agree.

23 (18 percent) disagreed.

9 (7 percent) strongly disagreed.

Question 6.2: Survey recipients were asked if they agreed that their school /district can accurately determine whether each student in a VTE course makes achievement gains in basic and advanced academic skills during a school year.

15 (12 percent) strongly agreed.

87.5 (68 percent) agreed.

20.5 (16 percent) disagreed.

5 (4 percent) strongly disagreed.

Question 6.3: Survey recipients were asked if they agreed that the *Performance Standards* requiring that students attain occupational competency are important for evaluating VTE programs in their school/district.

37.5 (29 percent) indicated they strongly agreed.

75.5 (59 percent) said they agreed.

9 (7 percent) said they disagreed.

5 (4 percent) strongly disagreed.

1 (<1 percent) did not respond.

Question 6.4: Survey recipients were asked if they agreed that their school/district can accurately determine whether *course completers* attain 80% of the occupational competencies for each course.

29 (23 percent) strongly agreed.

87 (68 percent) agreed.

9 (7 percent) disagreed.

3 (2 percent) strongly disagreed.

Question 6.5: Survey recipients were asked if they agreed that their school/district can accurately determine whether *program completers* attain 80% of the occupational competencies for each program.

24 (19 percent) strongly agreed.

89 (70 percent) agreed.

12 (9 percent) disagreed.

3 (2 percent) strongly disagreed.

Question 6.6: Survey recipients were asked if they agreed that the *Performance Standard* requiring that students stay enrolled in or graduate from school is important for evaluating VTE programs in their school/district.

19 (15 percent) strongly agreed.

57 (45 percent) agreed.

37 (29 percent) disagreed.

15 (12 percent) strongly disagreed.

Question 6.7: Survey recipients were asked if they agreed that their school/district can accurately determine whether 90% of the students in each VTE course stay enrolled in or complete high school.

42 (33 percent) strongly agreed.

72.5 (57 percent) agreed.

9.5 (7 percent) disagreed.

4 (3 percent) strongly disagreed.

Question 6.8: Survey recipients were asked if they agreed that tracking regular and IVEP students separately is important for evaluating VTE programs in their school/district.

9 (7 percent) strongly agreed.

55.5 (43 percent) agreed.

56.5 (44 percent) disagreed.

7 (5 percent) strongly disagreed.

Question 6.9: Survey recipients were asked if they agreed that their school/district can accurately identify the number of *both* regular and IVEP students in each VTE program.

44.5 (35 percent) strongly agreed.

74.5 (58 percent) agreed.

6 (5 percent) disagreed.

2 (2 percent) strongly disagreed.

1 (>1 percent) did not respond.

Question 6.10: Survey respondents were asked if they agreed that the local evaluation teams play an important role in their school/district's VTE program.

26 (20 percent) strongly agreed.

72.5 (57 percent) agreed.

24.5 (19 percent) disagreed.

4 (3 percent) strongly disagreed.

1 (<1 percent) did not respond.

Question 6.11: Survey respondents were asked if they agreed that their district would have a local evaluation team for each VTE program even if there were no state involvement in the programs.

13 (10 percent) strongly agreed.

61.5 (48 percent) agreed.

47.5 (37 percent) disagreed.

4 (3 percent) strongly disagreed.

2 (2 percent) did not respond.

Question 6.12: Survey respondents were asked if they agreed that it is reasonable to expect school districts to have a local evaluation team with a teacher representative, a business and industry representative, and special populations representative for each VTE program.

25 (20 percent) strongly agreed.

74 (58 percent) agreed.

17 (13 percent) disagreed.

12 (9 percent) strongly disagreed.

Question 6.13: Survey respondents were asked if they agreed that it is reasonable to expect school districts to maintain and submit the *Performance Standards* reports required by federal legislation and ADE.

6 (5 percent) strongly agreed.

80 (63 percent) agreed.

30 (23 percent) disagreed.

11 (9 percent) strongly disagreed.

1 (>1 percent) did not respond.

Question 6.14: Survey respondents were asked if they agreed that once the "bugs" are worked out, the Arizona VTE standards will be useful for making important improvements in their school/district VTE programs.

15 (12 percent) strongly agreed.

78 (61 percent) agreed.

21 (16 percent) disagreed.

14 (11 percent) strongly disagreed.

Question 6.15: Survey respondents were asked if they agreed that the costs, such as time and money, of keeping the state-required student performance records and reporting them to ADE will be justified by the benefits to their school/district.

5 (4 percent) strongly agreed.

48 (38 percent) agreed.

44 (34 percent) disagreed.

29 (23 percent) strongly disagreed.

2 (2 percent) did not respond.

Question 6.16: Survey respondents were asked if they agreed that they would recommend to school districts in other states that they use a VTE performance standards system like Arizona's.

3 (2 percent) strongly agreed.

57 (45 percent) agreed.

39 (30 percent) disagreed.

25 (20 percent) strongly disagreed.

4 (3 percent) did not respond.

ADDITIONAL COMMENTS

Finally, Section VII of the survey requested additional comments regarding any aspect of the Performance Standards system. For the most part, comments have been reproduced verbatim except for minor editing for spelling, grammar, and clarity.

- Instructional time lost is more valuable than the performance standards.

- Vocational teachers need release time on a weekly or monthly basis to keep up on the record keeping.

- As teachers We need three things: 1. More time 2. More time 3. More time

- Teachers need time to do record keeping. It would not be unreasonable for each vocational teacher to have one period/day to do record keeping.

- I realize that accountability is important but I believe that all accountability should be local. The time and effort spent on documenting state standards takes time away from time spent with students. I believe my program is exceptional, I've been recognized for my teaching, I pour my life into my program. Why do I have to spend so much time recording/documenting /verifying the achievement of 130+ students. Please - free us to do our best!

- [My] school district tries to follow all State Department guidelines; however, I feel each district could come up with good guidelines to evaluate their own programs. In order for us to receive materials (such as curriculum) to be used in evaluations, we are required to attend workshops which I'm sure are the State Department's answer to getting their federal funding. All of these conferences at large convention centers in nice motels cost money that could be used on students in the classroom.

- The ADE Performance standards reporting process is cumbersome and very time consuming, both on the part of the course/program instructor and the local evaluation coordinator. It must be made less cumbersome.

- 1. To cut to the chase: We don't presently have an evaluation team.

  2. Secondly for the mere $2,500 I expect to get for doing all these state required performance standards this sure seems like a lot of paperwork.

  3. As tight as funds are now, who is going to buy the file cabinets in which to keep all the students quizzes, exams, lab exams, and demonstration sheets to effectively evaluate each student?

  4. It would be particularly helpful to make sure the evaluation folks knew what agricultural education courses taught. Most folks figure its something to do with cows.

  5. If teachers could use some of the "A" monies derived initially from their programs to use in their departments they would look more favorably on all this.

- The current Performance Standards measurement are a very poor way to evaluate the competency attainment of individual students. This form can be made to say what the instructor wishes it to say! I think this is a very poor evaluation tool and it should be restructured. My local evaluation team members also feel that this system is worthless.

- Performance standards and measures are absolutely essential to assure the quality of vocational educational delivery. Uniform standards **seem** to be necessary for all programs to assure equality of vocational education delivery across the board. However, in health occupations, and specifically in nursing assistant programs, there is a federally mandated curriculum which must be followed to allow students to take the State certification exam to become certified nursing assistants at the end of their program. Because of this special requirement in the area of nursing assistant, there is a very limited amount of modification that can be made to the curriculum for special needs students. Nursing Assistant programs all include a clinical component in which students go to the hospital and work "hands-on" with patients under the license of their instructor. The instructor takes responsibility for the actions of her students (and virtually all HOE instructors are female!!) and her nursing license could be in jeopardy. There is a very strong motivation, on part of instructors, to be sure that students can perform all the skills in which they have been trained. This is the reason that there are few special needs students in the health occupations programs unless the programs are large enough to have multiple instructors who can support the special needs of these students in health care occupations. It is certainly reasonable to expect districts to submit a *Performance Standards* report to ADE. The nature of the report appears to be beyond reasonable expectations for the following reasons:

  1. Definitions are unclear. A "program completer" means different things to different people, even at the ADE. This opens the door to confusion and frustration on everyone's part. "Basic Academic Skills" and "More Advanced Academic Skills" mean different things to everyone.

  2. It seems unfair to hold districts responsible for contacting every student for a follow-up study. There needs to be a standard whereby every reasonable follow-up effort is made and statistics are calculated based on those students who can be found. To withhold funding because a district serves a transient population seems very arbitrary. There are certainly mathematical tools which are available to allow the use of a representative sampling of program completers (whoever they are) and still have valid statistics.

  3. The amount of time spent on program standards is like having a North Central evaluation every year. Voc Ed teachers are expected to spend many volunteer hours each year at this task. Many of those teachers who have been around for awhile feel that "this too shall pass" (like the program standards of the late 80s) and are frustrated with the necessity of spending time in such seemingly endless and valueless paperwork instead of improving curriculum and/or pedagogical skills. From what I have heard, many of the teachers who are also certified to teach in an academic area are considering a move to the area of their academic certification when an opening occurs. Many of these are very strong teachers and it bodes ill for voc ed to be facing the possible loss of these talented individuals.

- The *Performance Standards and Measures* instrument we are currently using is one of the worst instruments I have had to work with. Here are the reasons why:

  1. It does not accurately measure what it is supposed to because no one knows for sure what the criteria might be (i.e., A teacher may at his/her own discretion, just cut down the amount of competencies to just a few, say 3-5, and have every single student in the program meet standards—they are not standardized throughout a school, or a district, or in the state.

  2. A student can meet every so called "definition" except one and never be counted in the statistics as a "success" (i.e., A student may transfer in after the 40-day count and successfully complete or transfer to another class after completing 1st semester only and never be counted as meeting standards.

  3. A student is told in every vocational class in which they are enrolled to declare *that* program area as their choice and end up being counted in the wrong area because they don't know which one to choose—the one they are taking a one-semester class in, or the one they are taking three classes consecutively in?????-----so, they chose both!!

  4. So much of the information is criss-crossed so that they meet the criteria for one but not the other, etc., etc., etc. and therefore can't be counted at all.

  5. Who's definition of "demonstrated gain" are we using? I assume that a gain of one point can be counted as gain.

  6. On the **basis of this questionnaire**, I assume that we can have our very own definition of "course" and "program" completer. And I'm sure that if this is true, how much does it vary from program to program just in one school (sic). How can you compare?

  7. We were told to "not include" anyone who falls through the cracks if they were not meeting any one of the specified criteria which brings our count down very low. What impact does this have on the accuracy of the statistics in our standards???

  8. Just exactly what is an acceptable "advanced related academic skill"? For an IVEP student, it might be simply one of your more complex basic skills. Do you have to redefine it for every student???

  9. Part of the statistics are gathered on the 40th day count. If you get 25 new students signing up for your one year course at the semester, you can't count them. Not a good idea!

  10. This evaluation form tries to accommodate for every little exception by excluding them, but ends up being so vague that it really accounts for a minute portion of what a program is really like.

  11. The Program Standards evaluation form does not account for a student who takes your class 1st semester only, successfully completes it, leaves school and goes into

that field of work—obviously one of your successes, but it never shows in your program standards report!

12. Because of the "constant changing" of this information (students switching from job to job), the whole picture may change prior to your submitting it and be totally inaccurate. (followup statistics)

13. By teacher observation, it seems that some students should definitely be listed as "disadvantaged" but are not. Some in my opinion should not be but definitely are.

14. The members of our local advisory committee feel that this evaluative instrument is one of the worst and feels it is worthless and does not reflect the overall picture of any of our programs.

15. The Program Standards instrument needs major revision—the key is to K.I.S.S.—Keep It Simple S.....

- We are changing our academic skills assessment this year. We will be using SIMS, a district developed assessment system tied to the State Essential Skills.
  We discontinued using the AIMS system. We now track competencies and produce IVEP'S using the Vocational Data Management System. The system is being used for reporting Performance Standards. We are piloting a scanning competency process... this spring. We would not have achieved our first year accomplishments or been able to work on our improvement plan without using rural technical assistance staff.
  The ADE needs not only to tell you what to do, but develop a system for doing it. This is expensive and time consuming.

- Since this is a small school district with a total 9-12 enrollment under 200 students, the instructors are the people who must do all of the tracking and testing and valuating of programs—This takes a great deal of time away from course-related instruction. We find that keeping track of students and their progress is easy because we see them all the time. Completing the ADE Performance Standards is done so the district can maintain approved programs and be eligible for state and federal funds. The work is difficult and time-consuming. As Voc Ed. coordinator, I find the time spent on the standards to be extremely taxing, as I also teach 6 classes a day. I wish the processes, especially the academic standards, could be streamlined and tied in with district ASAP testing.

- I hope it's possible to combine much of the tracking/testing for academic skill attainment to each district's ASAP testing. Also, students really get tired of taking tests they perceive as meaningless—between ASAP, ITBS/TAP and PONS. So it's difficult to get an accurate measure of a student's abilities.

- We should only be evaluating targeted programs.

- Many students do mission work, sit out a year, or have other personal requirements to complete after graduation and so they drop "our" percentage and make our program appear unsuccessful.

- I am new to this district and I still do not know all the details involved in the inner workings of the Vocational Program within all school districts. At this time I *am* the Health Occupation Department, so the answers on this questionnaire are from one person's point of view.

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Morrison Institute for Public Policy
School of Public Affairs
Arizona State University
Tempe, Arizona 85287-4405
(602) 965-4525
(602) 965-9219 (fax)

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Morrison Institute for Public Policy
School of Public Affairs
Arizona State University
Tempe, Arizona 85287-4405
(602) 965-4525

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